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A. STRATEGIC PLANNING AND TRAINING

THE STRATEGIC TRAINING PLAN

by Raynold A. Svenson and Monica J. Rinderer

What Is a Strategic Training Plan?

A strategic training plan defines the training needed to achieve the goals of the business and lays out a comprehensive roadmap for meeting these needs. In the words of James L. Pierce, "Planning is but another word for the vision that sees a creative achievement before it is manifest." (from Kurian, George Thomas, *Handbook of Business Quotations*, Prentice Hall, Inc., Englewood Cliffs, NJ, 1987, p. 124). Your strategic training plan provides the vision that sees your world class training organization before it is manifest. The plan answers these questions:

1. What are the challenges facing our organization and our strategies and goals for dealing with these challenges?
2. What skills, knowledge, and competencies do we need in the organization to achieve our goals?
3. How can we make sure that our employees, suppliers, and customers know what to do and how to do it; what is training's role?
4. How adequate is our present training system to address these needs successfully?
5. What kind of a training system do we need? What should it look like three to five years from now?
6. What strategic goals shall we establish for training?
7. What training strategies will most effectively and efficiently achieve these goals?
8. What is the estimated training workload to execute these strategies?
9. How many resources should we commit, and what is the expected return on investment?
10. What organizational, management, and administrative systems do we need to deploy the resources effectively and get the job done?
11. How shall we implement the plan?

Strategic training plans can and often should be developed at a number of different levels. For example, you have a plan for

- An entire corporation
- A business unit or division
- A function such as research and development
- A major work location or plant

The questions are the same, the scope and complexity is obviously different. For the purposes of this book, we assume the plan is for an entire organization or corporation or a major business unit. If you intend to develop a plan with a smaller scope, simply scale everything to the scope you have selected. The principles and procedures we give you will work for any scope.

Strategic Training Plan Contents

At the conclusion of the strategic planning process, all outputs are documented in a strategic training plan. Figures 2-1 and 2-2 provide example outlines of strategic training plans for two radically different organizations. The first organization (Figure 2-1) is a small pizza chain with plans to grow from four stores to thirty stores in five years. Its strategic training plan lays out the training approach to supporting this growth. This plan is a relatively simple document compared to our second example, which is for a fictitious giant auto maker doing $30 billion a year in sales (Figure 2-2). You can see that there is a much greater level of detail and information required in a strategic training plan for a broader scope or larger organization. As you get further into this book, you will begin to be able to determine the outline for your own strategic plan.

Four-Phase Planning Process

Whatever the size of your business, if you are developing a strategic training plan for the first time, it is to your advantage to divide the planning process and planning outputs into major phases. The first strategic training plan for an organization can be a complex undertaking. Breaking the project into phases with key milestone review points at the end of each phase helps make it more manageable and less overwhelming. The four phase process outlined in Figure 2-3 is one convenient and logical way to do this, but there is nothing sacred about four phases or the specific ingredients of each phase. For instance, you might count the project plan as a separate phase and have a five-phase process. Note that the process for doing future annual updates is usually much simpler and may not have all of these phases.)

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Figure 2-1 ABC Pizza Company Strategic Training Plan Outline

I. Overview
- A. Training implications of business plan
  - • Growth goals
  - • Quality control
  - • Cost control
- B. Major training strategies
  - • Manager training
  - • Cook training
  - • Counter training
- C. Cost/benefit analysis
  - • Training costs
  - • Cost of not training
  - • Expected return on investment
- D. Implementation
  - • Outside resources to develop systems and materials
  - • Our managers to execute the training

II. Development of Systems and Materials
- A. Analysis of tasks and skills
  - • Timing
  - • Resource requirements
- B. Development of training materials
  - • Timing
  - • Resource requirements
- C. Develop "Training Store" concept
  - • Timing
  - • Resource requirements
- D. Develop evaluation system
  - • Timing
  - • Resource requirements

III. Implementation
- A. Training the managers for implementation
- B. Implementation support
- C. Evaluation method
- D. Management feedback and control process

[CORPORATE STRATEGIC TRAINING PLAN OUTLINE for S.D.C.]

Figure 2-2 Giant Auto Corporation Strategic Training Plan Outline*

I. Executive Summary
- A. The Strategic Role of Training in WCI*
  1. Where our business is going
  2. Skills and knowledge as a strategic asset
  3. Training and education as a means
  4. A proposed WCI training and education policy
- B. A Vision of WCI Training in 2000
- C. Where We Are Today
- D. How We Compare to Our Competition
- E. How We Compare in the World
- F. What We Have to Do to Achieve Our Vision
  1. Strategic goals
  2. Estimated cost to achieve
  3. Estimated business cost of status quo solution
- G. Required Executive Support

II. A Strategic Vision of WCI Training
- A. Analysis of Training Requirements to Achieve Business Goals
  1. Training required to bring new employees and existing employees to skill level required for peak performance
  2. Additional training required to support key business initiatives/goals
     - • Quality initiative
     - • Improved asset utilization
     - • Two new plants
     - • Restructuring of Marketing, Sales, Product Management functions
     - • Deployment of modern manufacturing technology and methods
     - • Pay-for-skills provision in new labor contract
  3. Summary of estimated training requirements
     - • By function
     - • By location
- B. Assessment of Existing Training
  1. Amount compared to needs
  2. Quality
  3. Cost
  4. Systems in place
     - • Needs analysis
     - • Training materials development
     - • Delivery
     - • Results measurement
     - • Planning
     - • Linkage to line and staff management
     - • Facilities and equipment
  5. Barriers to achieving 2000 requirements
- C. Assessment of Our Competition
- D. Benchmark Analyses of Other Top Companies
- E. Overall Conclusions from the Analysis Data
  1. Implications for competitive position, profitability, quality, customer satisfaction, and employee needs satisfaction
  2. The size and scope of the challenge
  3. Major issues to be faced
- F. Proposed WCI Training and Education Policy
  1. Rationale
  2. Policy statement
  3. Implementation approach
- G. A vision of WCI training in five years
- H. Strategic Training Goals
  1. Amounts and kinds of training to meet business goa
  2. Training system improvement goals
  3. Executive and line management involvement

*. Change W.C.I. to S.D.C

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Figure 2-2 Giant Auto Corporation Strategic Training Plan Outline (cont.)

III. Quantitative Plan for Training to be Provided
- A. Development/Acquisition of Training Material
  1. Forecast of materials to be developed (1990-94)
  2. Materials and development strategies to be used
  3. Unit cost of development
  4. Maintenance cost-estimating formula
  5. Forecast of development resource requirements and cost, various scenarios
- B. Delivery of Training
  1. Personnel forecast (1990-94), force size and inward movement
     - By function and level
     - By location
  2. Training requirements per person
     - By function and level
     - By location
     - By type of training
  3. Delivery strategies to be used
  4. Delivery requirements forecast (1990-94)
  5. Unit cost of delivery, by delivery strategy, location, and type of training
  6. Delivery plan, resource requirements and cost, various scenarios
- C. Additional Resource Requirements
  1. Needs analysis and curriculum architecture design
  2. Results measurement
  3. Instructional technology surveillance, assessment, transfer, development
  4. Training staff development and training
  5. Training information system

IV. Training Systems Development and Implementation
- A. Governance of Training
  1. Overall philosophy
  2. Executive training advisory board
  3. Functional curriculum councils (middle management)
  4. Location training committees
  5. Training administration council (training directors)
  6. Planning, priorities, and accountability process
- B. Results Measurement System
  1. Measurement philosophy
  2. Key performance measures and measurement hierarchy
  3. Specifications for results measurement system
  4. System development plan
     - Activities
     - Schedule
     - Resource requirements
- C. Organization of Training
  1. Organization issues addressed
  2. Alternative structures and comparative analysis
  3. Target organization, year 5
  4. Evolution of the organization, years 1-5
  5. Subunit mission, responsibilities
  6. Process flow
     - Needs analysis and curriculum architecture design
     - Training materials development
     - Delivery
     - Planning
  7. Resources required to complete detailed organization design
- D. Staffing Strategy
  1. Staffing issues
  2. Alternatives and comparative analysis
  3. Staffing strategies
  4. Recruiting strategies
  5. Recognition/retention strategies
  6. Resources required to implement staffing strategy
- E. Financing and Financial Accountability
  1. Issues addressed
  2. Alternatives and comparative analysis
  3. Financing strategies
     - Training needs analysis, curriculum design
     - Materials development
     - Delivery
     - Allocation of overhead
  4. Approvals and accountability
- F. Supervisor/Manager Support System
  1. Overall philosophy
  2. System specification
  3. System development plan
     - Activities
     - Schedule
     - Resource requirements
- G. Training Facilities
  1. Requirements forecast
  2. Existing inventory
  3. Issues addressed
  4. Facility plan
     - New facilities to be added
     - Abandonment of some existing facilities
  5. Anticipated costs
  6. Resources required to implement the plan

V. Summary Resource Requirements (Years 1-5)
- A. Staff Requirements
  1. Training materials development
  2. Delivery
  3. Needs analysis and curriculum design
  4. Results measurement, etc.
  5. Instructional technology support
  6. Operation and maintenance of facilities and equipment
  7. Support staff
  8. Management
  9. Development of administrative systems
- B. Capital Requirements
  1. Facilities
  2. Equipment
  3. Furnishings
- C. Expense Budget
  1. Personnel
  2. Procured materials
  3. Procured services
  4. Facilities operation

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(Editor's note: For a summary of the entire contents of this book, see the abstract on the next page.)

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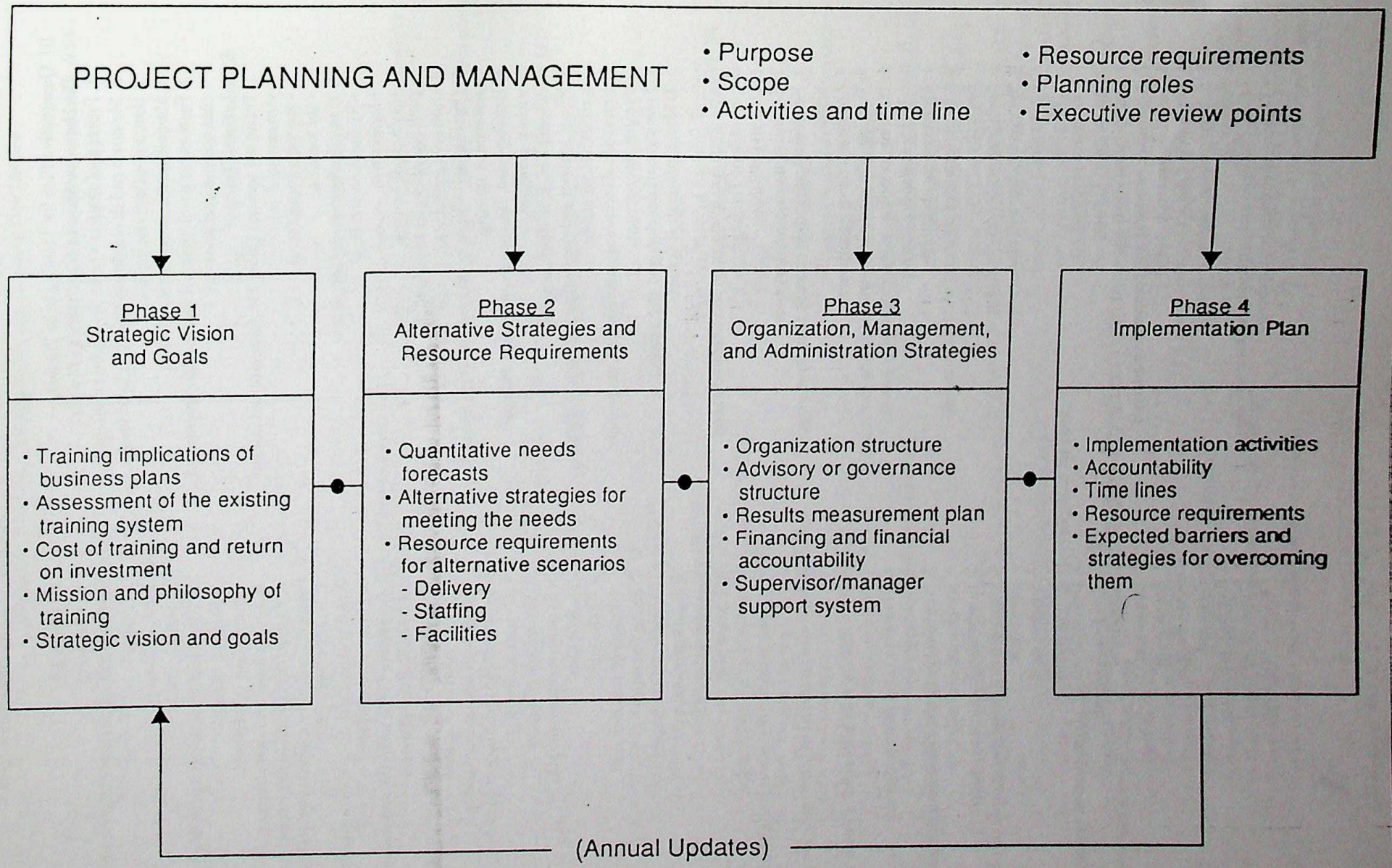

Figure 2-3 Four-Phase Strategic Planning Process

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TDY 93/94 CASE STUDY: BUSINESS ORIENTATION OF TRAINING AT NCR

Source: "The Business of Training at NCR," by Bob Filipczak, *TRAINING Magazine*, February 1992, pp. 55-60

NCR is in the third year of a 5-year plan that will redirect all of its training, explains the author. While training is not being re-centralized, the corporate education department is now in charge of keeping all the training focused, that is, all training must fit into the overall business strategy. The author describes NCR's emphasis on a systemization of the training process. While course development is not rapid using this process, it does ensure that the training produced meets a business need. Each course must relate to every other course in the curriculum. Moreover, the system keeps the training department on track; they are never at a loss as to what to do next. The author then turns to NCR's extensive course evaluation process, focusing on just how trainees' new behavior effects the bottom line. While several courses have been vindicated by this approach, others have been cut when the use of control groups demonstrated that the course led to no effect on behavior or financial gain. (AN1)

TDY 93/94 IN BRIEF

STRATEGIC PLANNING FOR TRAINING

Source: *The Training and Development Strategic Plan Workbook*, by Raynold A. Svenson and Monica J. Rinderer, Prentice-Hall, 1992, 456 pages, $79.95

How does a company institute world-class training? The authors have provided what they call "a comprehensive view of all the issues that are important in designing and managing a training system that supports business goals." They believe such a system begins with a clear view of the business challenges, strategies, and goals adopted by the firm. Then the training function is designed to meet these challenges. The central document that this book focuses on is the Strategic Training Plan—a complex, comprehensive document which defines the training needed and lays out a roadmap for meeting these needs. In the early chapters, the authors give an outline for such a document. The book itself is structured to flesh out the "best practices" in each of the topics which should be covered in a Strategic Training Plan. Finally, three appendices illustrate how such a project might be carried for a fictional company, presenting: (1) a project plan to develop a strategic training plan, (2) the plan itself, and (3) the training systems and processes of the plan. The book contains hundreds of graphics, charts, spreadsheets, system models, and forms which can be adapted by the reader. After giving an extended example of a world-class training system and describing what a strategic training plan is, the authors detail the process in 4 phases:

1. **Strategic Vision and Goals**—determining the training implications of business challenges, evaluating existing training, benchmarking, accounting for training cost, articulating mission and philosophy, and determining strategic vision and goals.
2. **Alternative Strategies and Resource Requirements**—developing the quantitative plan, performing a training needs assessment, designing the curriculum, selecting delivery strategies, developing the curriculum, and formulating a delivery plan, a staffing plan, and a facilities plan—with a summary of overall resource requirements.
3. **Organization, Management, and Administration Strategies**—organizing training, establishing the governing or advisory structure, building the supervisor and manager support system, financing/determining financial accountability, and measuring results.
4. **Implementation** (AN2)

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PLANNING FOR TRAINING IN A GROWING BUSINESS

Source: *How to Start a Training Program In Your Growing Business*, by Carolyn Nilson, AMACOM, 1992, 208 pages, $27.95

"Hire smart, stay lean, listen to employees and customers, and think of training as both a management challenge and a design challenge." This seems to represent the author's approach, as she focuses on developing a training program in a growing company with from 100 to 1,000 employees. The volume's audience is executives who want to see a bottom-line difference, not professional trainers, so the author doesn't assume a background in training, nor does she spend much time on the mechanics of training delivery. Rather, the thrust of the book is on the strategic relationship of training to the business, and how to set up a training program with a lean, targeted approach. After an introductory chapter, the author offers 4 chapters designed to appeal to the reader's business sense:

- "The Business Plan for Training" leads the reader to write for the planning function the same kind of prospectus that is usually written to launch a business.
- "Training Policy" gives clear instructions and templates on how to put down training policies in black and white.
- "Training Standards" gets the training program off to a carefully designed and controlled launch.
- "Costs and Accountability" helps the reader quantify and present the costs of training vs. the benefits of training. Budget guidelines are also offered.

Other chapters discuss employee development, introducing and promoting a new training program, and delivery options and presentation tips. The final chapter—"Designing Training for the Growing Business"—relates training to Total Quality Management, and it gives suggestions for developing a training program of quality. The author also touches on instructional design, learning styles, and lesson plans. The book is designed in such a way that sections on training philosophy are followed by "tools" for implementing the concepts. Short profiles of how training is conducted by growing companies are scattered throughout the book. (AN3)

TRAINING'S ROLE IN THE CORPORATE TAKEOVER

Source: "Training Needs in Corporate Takeovers," by David C. Bjorquist, *Performance Improvement Quarterly*, Vol. 5, No. 1 (1992), pp. 70-89

Takeovers, whether or not they are accomplished, disrupt training. But in spite of the problems, says the author, a takeover can actually become an opportunity for trainers who are aware of the possibilities that may exist. The author examines the impact of threatened and actual takeovers on training in 3 corporations that manufacture recreational and industrial power supplies, personal care products, and computers and component parts. All faced changes, such as a reduction in staff and financial resource reduction and the assignment of new training goals. Stress is a significant factor in the takeover process, notes the author—more so when the takeover fails than when it succeeds. He describes the process of needs assessment prior to the takeover, and he notes that trainers can facilitate acculturation after the takeover by observing the differences between the two merging cultures and anticipating how they will be continued or changed. The author also examines in the training department itself in terms of function, scope and focus, and performance standards. He advises trainers to prepare to face these changes by:

- Deciding whether to act or react to the new conditions,
- Starting with a departmental needs assessment,
- Recognizing and addressing new environmental issues that have potential negative effects on the training department, and
- Accepting the fact that roles and responsibilities will be ambiguous for a time. (AN4)

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B. TOTAL QUALITY IN TRAINING MANAGEMENT

(2) MANAGING THE TOTAL QUALITY OF TRAINING

by Robert O. Brinkerhoff and Stephen J. Gill

The total quality management framework provides an easily legitimized and popularly supported vehicle for achieving goals that training leaders have long pursued—with only moderate success—under the banners of systematic instructional design, performance-based training, and evaluation of training. Because total quality management efforts are based on systems thinking, training quality improvement efforts readily clarify the critical role of "nontraining" processes (supervision, for example) in the production of training-added value. The total training quality management approach prescribes a systems view of training that partitions the value-adding process into three areas: processes that take place (1) before the learning transaction, (2) during the learning transaction, and (3) after the learning transaction. Critical value-adding events in the before-, during-, and after-training processes are first defined, then measured and tracked, so that nonconforming variations can be detected that will lead first to problem solving, then to continued improvement.

Quality, in products and services, is the new revolution in private and public sector organizations. Requests for applications for the Malcolm Baldrige National Quality Award have risen from 65,000 requests in 1989 to 160,000 requests in 1990 (Schaefer, 1990). Quality programs pervade the manufacturing industries and are beginning to become part of the revitalization of health care, retail sales companies, utilities, and other service businesses. Around the world, businesses and industries are learning to apply quality concepts to the continuous improvement of their work units and their organizations.

Trainers are increasingly being asked to help their organizations benefit from this quality revolution (Cocheu, 1989). However, except in piecemeal and superficial ways, few trainers are applying quality principles to training. In this article we describe a framework for the total quality management of training. This approach, which we refer to as total quality managed training (TQMT) integrates concepts of the leading quality contributors with the best practices of human resource development.

Most of the elements discussed in this article are not new. The quality concepts are freely adopted from the quality literature. Instructional systems design principles and approaches have existed for many years, giving direction to the design and delivery of high-quality learning interventions. The recent training literature (for example, Brinkerhoff, 1987; Gradous, 1991; Robinson and Robinson, 1990) prescribes how to design and deliver high-impact, performance-based training.

Yet, for most trainers laboring in most training departments, this advice is very difficult to apply. The typical training operation is bureaucratically and politically distanced from the business of the organization, and management is often skeptical of the corporate training function.

What is new is the prominence of the total quality movement. The total quality management perspective represents a tremendous opportunity to redefine the training paradigm and for training leaders to help the profession move closer to some significant goals: integrating training into the overall strategic and operating framework of the organization, building effective partnerships with management, and measuring and documenting the effectiveness of training. The total quality perspective also provides an opportunity for trainers to defend their requests for additional resources by linking these requests more directly to important goals of the organization. Training leaders cannot count on increasing budgets; the pressure to be more productive with the same or decreasing resources will continue to be felt throughout the organization. In sum, the total quality management approach can help trainers play and be more accepted in a critical role in the success of the organization.

Total Quality Management

The leading figures in the quality movement offer definitions of quality that we can adapt to training. Deming (1986) defines quality as meeting the customer's needs. He argues that the way to do this is to improve continuously the processes that produce products and services. The way to improve these processes is by following his fourteen points (point one being "Create constancy of purpose for the improvement of product and service") and using specific methods and tools. He

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suggests statistical process control techniques (essentially collecting data that helps monitor variation and continually adjusting processes to reduce this variation) and the use of charts to assess and explain the variation.

Deming also stresses that quality can be managed only when the production process is analyzed and understood within a larger systems framework. For example, automobile manufacturers had to learn that providing quality to customers required management of the total system, including product development, purchasing, plant operations, and sales and service. Manufacturers began to work more cooperatively with suppliers to manage the quality of system inputs and with dealers to streamline the warranty service process. The "total" in total quality management refers to a systems view of quality.

Juran and Gryna (1980) define quality as "fitness to use." This means that customers should be able to count on the product for their purposes. The product should have quality in its design, its conformance to standards, its availability when needed, its safety, and its condition when it reaches the customer. Juran's emphasis is on the reliability of the product in all of these areas.

Crosby (1979) defines quality as "conformance to requirements." A high-quality product consistently meets the specifications set for that particular product. According to Crosby, the ultimate goal of quality improvement is "zero defects." This is achieved by identifying problems early in the process, with the emphasis on prevention over detection.

Taguchi and Clausing (1990) believe that the quality of a product must be judged by the robustness of that product as it is used in the field. A robust product is one that holds up to the effects of interacting with other parts under the actual conditions for which it is designed. For Taguchi and Clausing, "zero defects" is not good enough because this concept presupposes an acceptable amount of variation from the specifications for any part. They believe that a robust product comes from "meeting exact targets consistently" (p. 67). This robustness must be designed into the product because "quality is a virtue of design" (p. 65). The cost of low quality is much greater than the cost of high quality. When a product fails, it must be tracked, transported, apologized for, and replaced or fixed. The costs in terms of production and damage to reputation are great.

Our definition of total quality managed training builds from the work of these quality leaders to establish the following principles:

- Quality in training is defined by the needs and expectations of the customers of training. High-quality training is training that provides the greatest value to training customers, including trainees, their supervisors, other managers, executives, other employees, and the consumers of the products and services.
- Quality in training is a virtue of design. The highest quality training is training that is designed to consistently produce results that add value to the organization and to its products and services and maintain this value over time.
- Continuous efforts are made to identify and eliminate variations in the training process that threaten quality.
- The goal of TQMT is to ensure the organization that 100 percent of its employees learn 100 percent of what they need to learn when they need to learn 100 percent of the time.
- The cost of nonconformance is identified and measured to ensure that training is free of waste; TQMT consistently adds the greatest value at the lowest cost.
- TQMT is integrated with other organizational subsystems (for example, selection, benefits, performance appraisal, promotion, strategic planning) that add value to individual and organizational performance.

Systems View of Training. Traditionally, training is thought of as a single independent process or activity that produces a single result of learning. However, the view that training outcomes are only some change in the ability of the trainee is short sighted and limited, since these learning outcomes by themselves have very little value to an organization.

To apply the total quality management approach, training must be defined within the context of the total system of individual and organizational performance. Training is a complex process that is affected by many organizational, small group, and individual interactions. This training process must be analyzed to identify its many components and critical interfaces with other organizational processes (subsystems), with quality criteria, measurement, and feedback specified for each critical juncture. The comprehensive systems analysis of training required for the total quality approach to training necessitates a broad view of the training process—a broader view than is typically taken by training practitioners and their managers.

As Nadler (1979) points out, learning is a defining element of training that distinguishes training from other organizational performance improvement strategies, such as job design or pay and incentive plans. But although learning is always a part of training, learning is not the goal of training. Learning alone does not add sufficient value to justify the costs of training. Learning results must be further "processed" within and through interaction with other processes in order to add value.

Most typically, training is intended to add value through the transformation of learning into changed job performance. But training may also add value through sustained changes in the capacity of employees to perform in new ways in the future. Training may also add value when learning results create positive attitudinal reactions that then lead to improvements in overall organizational performance and climate. In any of these value adding

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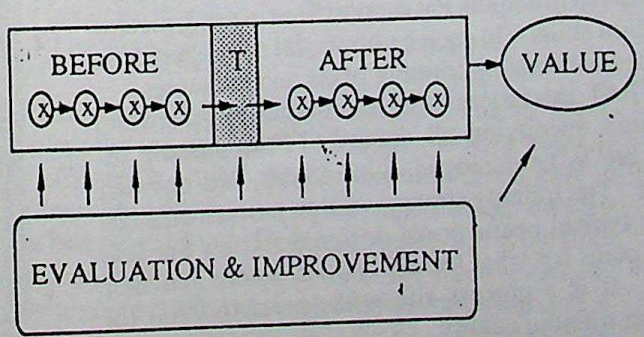
figurations, however, it is not learning itself that adds value; learning results must be further transformed through retention, reinforcement, and support activities that involve what are traditionally viewed as nontraining processes within the organization.

Critical Value-Adding Processes. Research on training (Gradous, 1991 Tannenbaum and Yukl, 1992) has provided much knowledge about how the pretraining and posttraining environments bear heavily on whether and how training adds value. From a quality management perspective, the pretraining and posttraining environments are viewed as integral portions of (not separate from) the overall training process and become the locus of measurement of many critical value-adding events.

Each of these value-adding events produces "critical value adders" (CVAs) that influence the quality of training results. Managing the total quality of training involves identifying these CVAs and measuring their variation to create information on which continuous improvement efforts can be based. The quality management process depicted in Figure 1 can be exemplified by considering a hypothetical but typical training course for new managers entitled "How to Conduct Effective Meetings." The TQMT approach in this example might be played out as described in the following five key steps:

1. **Establish goals for added value.** Meetings among trainers and training customers (people in the organization who will benefit from improved meetings) are held to clarify and define measurable expectations for the value that training in meeting effectiveness will add. The training may be expected to increase meeting efficiency and productivity, thereby enabling participants to reach needed decisions more quickly and thereby reduce costs.
2. **Identify before, during, and after CVAs.** Analysis of the training process identifies those CVAs that if managed more effectively could add significantly to the overall quality of the training. Measurable criteria for each process are agreed on. For example, these criteria could state that trainees will clearly understand expectations for their postlearning performance in meetings, managers of the trainees will agree to provide at least two coaching interventions to the trainees within two weeks after the last training session, each trainee will bring a completed meeting analysis worksheet to a training session, and trainees will design and conduct an actual meeting between training sessions.
3. **Measure the variation in achievement of CVA criteria.** Each of the CVA processes is measured and monitored according to mutually agreed-on criteria and measurement procedures. Appropriate data analysis and reports (such as variation charts) will be produced and discussed with trainers and the customers of training.
4. **Conduct feedback and problem-solving efforts with key stakeholders.** Where special cause variations in CVAs are identified, problem-solving groups are convened to propose solutions. For example, if competing operational demands prevent managers from fulfilling their planned coaching interventions, ways to make these managers available for coaching could be explored by this group.
5. **Implement continuous improvement efforts.** Trainers and training customers, including trainees, managers of trainees, other managers and employees, participate in continuing efforts to study emerging problems related to the purpose of the training, plan improvement strategies, monitor results, and make changes.

Figure 1. Managing Critical Value-Adding Processes



TQMT System

Moving beyond the application of total quality management to a single course, the TQMT approach can be used to manage the entire training function. This is a systems view that takes into consideration the interrelationship of the various processes that support the planning, delivery, and sustaining of learning.

The entire training system in an organization can be partitioned into four interdependent processes (see Figure 2). Quality improvement efforts can then be focused on the appropriate process. Although the specific operation and desired outputs for each of the four processes are different depending on the specific training context, the four processes can be found within any training function and always provide a useful identification of levers for quality improvement. Each of these processes is defined below, with examples of how TQMT is applied to each process.

Formulating Training Goals. The goal formulation process links expected training results to organiza-

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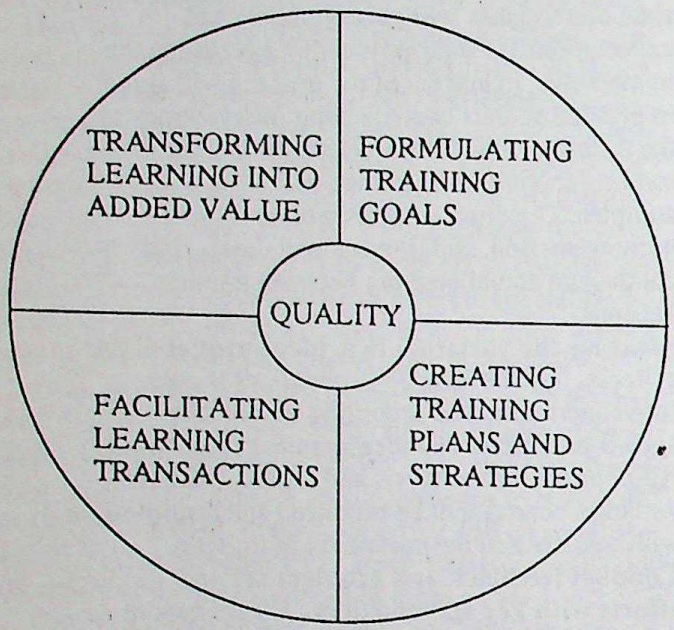
Figure 2. TQMT Subprocesses



tion strategies and goals and to customer expectations for the results of training. To do this we must first know who the customers of training are and identify the results that these customers want from the training process. The obvious customer is the trainee, but other customers, such as the trainee's supervisor, supervisees of the trainee, managers of the organization, board of directors, stock holders, and end users of the product or service, are all customers of training. Meeting the needs of each of these customers means identifying a broad range of desired training results.

Needs analyses are conducted to help training managers decide whether and what sorts of training the organization should provide. A needs analysis is typical of a goal formulation activity. There are other activities that characterize goal formulation as well. For example, a top level management group might decide to install new technology to streamline business operations, eventually contracting with a vendor to supply and install the new equipment. Discussions with the vendor should explore the nature of the training that will be provided, how it will be delivered, what support is needed from the organization, and so on. These discussions about training are another type of goal formulation since they contribute to and shape decisions about the needs, desired outcomes, and expectations for the value that training will add.

Goal formulation occurs at an easily recognized macro-level whenever an organization considers the development of new training programs. Less immediately recognizable as goal formulation is the micro-level. For example, a company employee hears from a friend about a training workshop and then asks a supervisor for permission to attend. This represents a micro-level goal formulation activity. In this example, training needs may or may not have been made explicit, but benefits and expectations for training results are anticipated.

The goal formulation process includes all activities that shape decisions to deploy training resources. This process either implicitly or explicitly identifies the benefits to the individual and the organization. The process cannot be skipped, though the attention given to goal formulation may vary considerably from one training effort to another. Regardless of how consciously and conscientiously goal formulation is done, the process shapes expectations for the value that the particular training will add to the organization.

Goal formulation activities are measured and tracked to detect variations in CVAs. This ensures that:

- Training goals are clearly and explicitly linked to organization goals
- All stakeholders (for example, trainees, trainee supervisors, top level management) understand and agree to the goals
- All stakeholders understand the linkage of training goals to organization goals
- Measurable goal achievement indicators are understood and agreed to by all stakeholders
- Projections of value to be added by training are greater than anticipated costs of training.

Creating Training Plans and Strategies. This process includes all of the decisions and activities that shape the nature and scope of training activities. Designing the training activities, writing materials, planning workshops, publicizing the event, specifying participant selection procedures, notifying supervisors, soliciting management support, and creating realistic and supportive expectations are all examples of the planning and strategizing process. This process is accomplished at different levels of rigor: A top-level manager may say, "Let's put on ACME's widget training while everyone is in town for the sales division meeting next year!" A strategic planning committee may devote a year of meetings to designing a four-day corporate retreat. An instructional designer may produce a workshop module. A training manager may think to herself, "Hmm, I'd better get Pat's boss involved in helping Pat support Fred in using his new negotiation skills." In each example, all are engaging in the process of creating training plans and strategies.

In TQMT, this process produces the training plans and procedures, specifying all details of how training resources are to be deployed, with whom, and on what schedule. The training strategy design process includes not only typical instructional design activities but also specific plans for what should happen before and after training. It is a process rife with levers (CVAs) for increasing training quality.

The strategy formulation process raises and resolves questions that result in specific expectations for action on the part of trainers, trainees, trainee supervisors, managers, and others. Systems for measurement of these actions to detect variations that threaten quality are planned and

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directed toward CVAs. Strategy formulation activities are measured and tracked to detect variations in these CVAs. This ensures that:

- Trainee groups that have the greatest need for training benefit from the training
- Trainee schedules allow for just-in-time learning
- Ownership of training plans are shared equally among the different stakeholder groups
- Trainee and supervisor expectations for training needs and results are realistic and accurate
- Accountability for usage and support of learning on the job is specified and agreed to among key stakeholders (trainers, trainees, supervisors, and managers)
- Venues for learning transactions support and encourage excellence
- Training group size and make-up are optimum for learning and impact
- Responsibility for prelearning activities (such as analysis of transfer of learning objectives) is clearly assigned, understood, and agreed to
- Instructional designs incorporate effective and appropriate adult learning strategies.

Facilitating Learning Transactions. This third process refers to the activities that produce learning. The process includes whatever is done to ensure that trainees learn what they are supposed to learn in the most effective and efficient manner possible. Teaching is the most obvious activity in this process, but managing the learning environment, providing physical and psychological comfort and encouragement to learners, monitoring learning, and providing feedback are also important.

Learning transaction activities are measured and tracked to detect variations in CVAs. This ensures that:

- Trainees are learning at effective rates
- Individual learning deficits are identified, analyzed, and ameliorated
- Trainees master interim and terminal learning objectives
- Learning includes individual clarification of job usage and benefits
- Trainees build clear understanding of linkage of personal learning to achieving organizational strategic goals
- Learning feedback is accurate and timely.

Transforming Learning into Added Value. Training goals are not accomplished simply with the acquisition of learning on the part of trainees. For learning to translate into added value to the organization, learning must endure and be applied to the workplace to enhance organizational performance. A number of activities must occur to support this transfer, including follow-up assessments of job performance, periodic meetings with trainees to encourage the use of training, and rewards for the application of new learning. When training is not intended for immediate use (such as when airline pilots are trained in crash-landing techniques), then activities such as refresher training, providing job aids or written updates, and reassessment of skills represent this fourth process.

Learning transformation activities are measured and tracked to detect variations in CVAs. This ensures that:

- Supervisors support application of learning to the job
- Trainees apply learning on the job
- Impediments to the transfer of learning are identified
- Learning is retained over time
- Trainees receive accurate and timely feedback on their use of learning
- Supervisors receive feedback on their coaching and support efforts
- Incentives, rewards, and recognition are provided
- Feedback is provided on the impact of learning on the organization's progress toward its business goals and objectives.

Activities during all four of the critical training subprocesses should be monitored to assess conformance with expectations. A continuous flow of data about activities and results during all four subprocesses will serve to focus attention on important quality considerations as well as shed light on the extent to which the organization is achieving greater control over training.

Activities that guide the total quality management approach are the same for each of the four training processes:

- Expectations for outcomes of each process are discussed, negotiated clarified, and agreed on with customers.
- Critical interfaces with other organizational subsystems are analyzed and translated into critical value-adding actions (the quality levers).
- Specifications for variation of CVAs are constructed so that they can be measured.
- Variation reports are communicated to key parties so that participative problem-solving and improvement efforts can be undertaken.
- Knowledge created by the foregoing activities is clarified and formalize into new procedures and expectations that continuously improve the quality of training.

The commitment to continuous improvement is essential to the total quality management approach. Training remains as much art as it does science; no matter how well a given training process works, there is always room for improvement.

A total quality management approach to training is not a cookbook approach that can be applied in the same way

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to every training program. As we explained above, the ultimate goal of training is added value to the organization. Because the culture and structure of each organization are different, and the needs and opportunities in any given organization are constantly changing, indicators of quality in training are entirely context specific and context bound.

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TDY 93/94

CASE STUDY: ASSESSING TRAINING'S SERVICE QUALITY AT WASHINGTON'S METROPOLITAN AREA TRANSIT AUTHORITY

Source: "Performance Indicators Assess Training's Service Quality," by Christopher Busse, *Training Directors' Forum Newsletter*, July 1992, p. 6

When her supervisor challenged the training function to better evaluate the service quality of its work, the training manager for the Metropolitan Area Transit Authority in Washington, DC responded by identifying customer-driven, quality performance indicators which they could use to measure themselves. These were established after careful consideration of what internal customers want—in turnaround time, in ease of use, etc. The performance indicators were divided into 5 main categories: courses, educational reimbursement, outside training, requisition/procurement, and the learning laboratory. A couple of examples give the idea:

- Formal written advertisement should be distributed 6 weeks prior to the course.
- Programs should rate at least 3 on a 5-point scale.
- Reimbursement should be processed within three days of grade and financial receipt.

Though the performance goals were established in March 1992, the department retroactively measured its performance from July 1991 through the spring of 1992 to give it a baseline from which to measure future performance. (AN5)

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INSIDE THE BALDRIGE AWARD GUIDELINES
CATEGORY 4: HUMAN RESOURCE DEVELOPMENT AND MANAGEMENT

by Nicholas Leifeld

Quality Progress Editor's Note: *Companies are using The Malcolm Baldrige National Quality Award criteria for self-assessment, training, and networking. To help people understand them,* Quality Progress *is publishing a series on the 1992 criteria's seven examination categories. This fourth of seven installments looks at Category 4: Human Resource Development and Management.*

Category 4, Human Resource Development and Management, examines the elements of how an organization develops and then realizes the full potential of its work force to pursue quality and performance objectives. It also examines the organization's efforts to build and maintain an environment conducive to full participation in quality efforts and personal and organizational growth. By completing this section, an organization can determine what effects its procedures have on human resources development and whether these procedures need improvement. This action can initiate internal changes that can, in turn, improve human resources planning and effectiveness. Category 4 has five sections: human resource management, employee involvement, employee education and training, employee performance and recognition, and employee well-being and morale.

Section 4.1: Human Resource Management

Aggressive quality and performance goals require strong human resource plans and practices to ensure that employees' maximum potential is utilized. Section 4.1 focuses on the human resource development initiatives that improve education, training, recruitment, involvement, empowerment, and recognition. Based on the jobs they perform, different employees have different training and developmental needs; therefore, the applicant is asked to distinguish the job categories of employees and describe the improvement and evaluation processes for each. Continuous improvement activities are very important in this section.

Suggestions: A company must demonstrate that its human resource plans are driven by the quality goals outlined in the strategic business plan. A company can easily fall into the trap of developing human resource plans, goals, and objectives that do not support the overall business plan, creating an environment that can adversely affect the organization's ability to achieve its overall goals and objectives. It is important, therefore, that the applicant be specific and use examples if needed to project a clear picture of its human resource strategy. The applicant should list the quality goals relating to human resource practices and compare them to the company's quality goals. A matrix can effectively show their relationships.

Section 4.2: Employee Involvement

John F. Akers, chairman of IBM Corporation, said: "Empowering our employees and inculcating a sense that everyone owns his or her piece of the business not only unleashes the talent and energy of our people, but also flattens the organization and reduces stifling bureaucracy." All employees contribute to meeting a company's quality and performance objectives; Section 4.2 determines the management practices and specific mechanisms used to promote employee contributions, empowerment, responsibility, and innovation.

Suggestions: Information demonstrating different forms of teamwork (such as task forces, quality improvement teams, and value analysis teams) should be presented. Teamwork is a way of life in successful organizations, and the level of employee involvement is an important factor in assessing an organization's success in this area. Key areas requiring attention are empowerment, responsibility, and innovation.

The applicant should describe in detail the strategies to increase empowerment and responsibility throughout the entire organization. In addition, it should include examples illustrating how employee empowerment has been increased.

Although many organizations recognize and reward employees for a job well done, they generally recognize and reward conservative activities rather than risk taking. Responses in this section should describe the approaches taken to encourage innovation and risk taking. The descriptions should include as many objective data as possible.

Many organizations also do little to evaluate the effectiveness of their efforts to increase employee involvement, empowerment, and innovation, but it is important to have a sound, systematic approach in this area. Applicants should provide trend data in the areas of employee involvement, suggestions, and innovations (new product designs or patents).

Section 4.3: Employee Education and Training

The process of empowering employees requires organizations to have effective education and training programs. Companies must assess their employees' skills and knowledge and provide education and training to improve them.

A company must have a systematic approach to determining the specific skills and training needed for each position within the organization. This approach must go beyond preparing a detailed job description and determining the knowledge, skills, and training needed. A

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TEGORY 4: HUMAN RESOURCE DEVELOPMENT AND MANAGEMENT (150 pts.)

Human Resource Development and Management category examines the key elements of how the company elops and realizes the full potential of the work force to pursue the company's quality and performance objectives. examined are the company's efforts to build and maintain an environment for quality excellence conducive to full cipation and personal and organizational growth.

Human Resource Management (20 pts.)

Describe how the company's overall human resource development and management plans and practices support its quality and company performance plans and address all categories and types of employees.

AREAS TO ADDRESS

a. How human resource plans derive from quality and company performance plans (Item 3.2). Briefly describe major human resource development initiatives or plans affecting: (1) education, training, and related skill development; (2) recruitment; (3) involvement; (4) empowerment; and (5) recognition. Distinguish between the short-term (1-2 years) and the longer term (3 years or more) plans as appropriate.
b. Key quality, cycle time, and other performance goals and improvement methods for personnel practices such as recruitment, hiring, personnel actions, and services to employees. Describe key performance indicators used in the improvement of these personnel practices.
c. How the company evaluates and uses all employee-related data to improve the development and effectiveness of the entire work force. Describe how the company's evaluation and improvement processes address all types of employees.

s:

man resource plans might include the following: mechanisms for promoting cooperation such as internal stomer/supplier techniques or other internal partnerships; initiatives to promote labor-management cooperation, such as partnerships with unions creation of modifications to recognition systems; mechanisms for increasg or broadening employee responsibilities; permitting employees to learn and use skills that go beyond current assignments through redesign of work processes; creation of high-performance work teams; and education d training initiatives. Plans might also include forming partnerships with educational institutions to develop nployees or to help ensure the future supply of well-prepared employees.

ategories of employees" refers to the company's classification system used in its personnel practices and/or rk assignments. "Types of employees" takes into account other factors, such as bargaining unit membership d demographic makeup. This includes gender, age, minorities, and the disabled.

employee-related data" refers to data contained in personnel records as well as data described in Items 4.2, , and 4.5.

nployee Involvement) pts.)

scribe the means available all employees to contribute ectively to meeting the npany's quality and formance objectives; nmarize trends in involvent.

AREAS TO ADDRESS

a. Management practices and specific mechanisms the company uses to promote employee contributions, individually and in groups, to quality and company performance objectives. Describe how and how quickly the company gives feedback to contributors.
b. Company actions to increase employee empowerment, responsibility, and innovation. Briefly summarize principal goals for all categories of employees, based upon the most important requirements for each category.
c. Key methods and key indicators the company uses to evaluate and improve the extent and effectiveness of involvement of all categories and types of employees.
d. Trends in percent involvement for each category of employee. Use the most important indicator(s) of effective employee involvement for each category.

ent involvement goals and indicators may be set for different categories of employees, depending on pany needs and on the types of responsibilities of each employee category.

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CATEGORY 4: HUMAN RESOURCE DEVELOPMENT AND MANAGEMENT (cont.)

4.3 Employee Education and Training (40 pts.)

Describe how the company determines what quality and related education and training is needed by employees and how the company utilizes the knowledge and skills acquired; summarize the types of quality and related education and training received by employees in all categories.

AREAS TO ADDRESS

a. (1) How the company determines needs for the types and amounts of quality and related education and training to be received by all categories and types of employees. Address: (a) relevance of education and training to company plans; (b) needs of individual employees; and (c) all work units having access to skills in problem analysis, problem solving, and process simplification; (2) methods for the delivery of education and training; and (3) how the company ensures on-the-job use and reinforcement of knowledge and skills.

b. Summary and trends in quality and related education and training received by employees. The summary and trends should address: (1) quality orientation of new employees; (2) percent of employees receiving quality and related education and training in each employee category annually; (3) average hours of quality education and training per employee annually; (4) percent of current employees who have received quality and related education and training; and (5) percent of employees who have received education and training in specialized areas such as design quality, statistical, and other quantitative problem-solving methods.

c. Key methods and key indicators the company uses to evaluate and improve the effectiveness of its quality and related education and training for all categories and types of employees. Describe how the indicators take into account: (1) education and training delivery effectiveness; (2) on-the-job performance improvement; and (3) employee growth.

Note:

(1) Quality and related education and training address the knowledge and skills employees need to meet their objectives as part of the company's quality and performance plans. This may include quality awareness, leadership, problem solving, meeting customer requirements, process analysis, process simplification, waste reduction, cycle time reduction, and other training that affects employee effectiveness and efficiency.

4.4 Employee Performance and Recognition (25 pts.)

Describe how the company's employee performance, recognition, promotion, compensation, reward, and feedback processes support the attainment of the company's quality and performance objectives.

AREAS TO ADDRESS

a. How the company's performance, recognition, promotion, compensation, reward, and feedback approaches for individuals and groups, including managers, support the company's quality and performance objectives. Address: (1) how the approaches ensure that quality is reinforced relative to short-term financial considerations; and (2) how employees contribute to the company's performance and recognition approaches.

b. Trends in reward and recognition, by employee category, for contributions to the company's quality and performance objectives.

c. Key methods and key indicators the company uses to evaluate and improve its performance and recognition processes. Describe how the evaluation takes into account cooperation, participation by all categories and types of employees, and employee satisfaction.

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CATEGORY 4: HUMAN RESOURCE DEVELOPMENT AND MANAGEMENT (cont.)

4.5 Employee Well-being and Morale (25 pts.)
Describe how the company maintains a work environment conducive to the well-being and growth of all employees; summarize trends and levels in key indicators of well-being and morale.

AREAS TO ADDRESS

a. How well-being and morale factors such as health, safety, satisfaction, and ergonomics are included in quality improvement activities. Summarize principal improvement goals, methods, and indicators for each factor relevant and important to the company's work environment. For accidents and work-related health problems, describe how root causes are determined and how adverse conditions are prevented.
b. Mobility, flexibility, and retraining in job assignments to support employee development and/or to accommodate changes in technology, improved productivity, changes in work processes, or company restructuring.
c. Special services, facilities, and opportunities the company makes available to employees. These might include one or more of the following: counseling, assistance, recreational or cultural, non-work-related education, and outplacement.
d. How and how often employee satisfaction is determined.
e. Trends in key indicators of well-being and morale. This should address, as appropriate: satisfaction, safety, absenteeism, turnover, attrition rate for customer-contact personnel, grievances, strikes, and worker compensation. Explain important adverse results, if any. For such adverse results, describe how root causes were determined and corrected, or give current status. Compare results on the most significant indicators with those of industry averages, industry leaders, and other key benchmarks.

Source: 1992 Award Criteria, National Institute of Standards and Technology, Gaithersburg, MD.

›sed-loop system is needed to ensure that training and ·ucation efforts are effective. Many organizations have › mechanisms to determine whether employees are plying what they learned.

Suggestions: Systematic follow-up is essential to ›ving whether training is successful. Many organiza-›ns maintain data on a variety of different types of ining and education programs, but only a small per-›ntage of data concern quality-related education and ining. In Section 4.3, trend data should focus on ality-related education and training for employees. ›propriate data include quality awareness, process analy-, designed experiments, cycle time reduction, problem ving, percent of employees receiving quality educa-n and training, and leadership.

To evaluate and improve the effectiveness of quality ıcation and training, an organization needs to:

- Test employees to see whether they have mastered the information.
- Identify and measure key dimensions of quality that should be improved by the training.
- Determine whether the quality education and training helps employees develop their knowledge and skills.

Section 4.4: Employee Performance and Recognition

Section 4.4 focuses on how an organization recognizes, promotes, compensates, rewards, and provides feedback to employees. The approaches used, how well they are deployed, and the actual performance trend data must be included because the applicant must show that all employees support the company's quality and performance goals. The major areas in this section are performance measurements, compensation, and recognition.

Suggestions: Performance measurements should be based on quality, quantity, and cost. Employees must be able to influence the measures they are responsible for, and timely feedback on their performance must be given. An annual performance appraisal does not provide adequate feedback to an employee; additional feedback systems are needed to measure performance.

Compensation systems should include quality measures; each employee's compensation should be partially

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on his or her achievement of quality goals. In ion, recognition programs should be based on qual- erformance rather than safety records, seniority, figures, etc.

Many organizations do not have systems to evaluate programs, identify problems, and implement cor- ive actions. A data-based evaluation system is needed mprove performance measurements and the compen- ion and recognition programs.

ction 4.5: Employee Well-Being and Morale

If employees are to make maximum contributions to mpany goals, it is essential that their health, safety, tisfaction, and ergonomics be considered in quality mprovement activities. Successful organizations not nly achieve outstanding levels of quality and customer atisfaction, they also provide an environment that is iewed as a good place to work by their employees. revention-based activities to improve health, safety, and rgonomics are important, as is a sound system to inves- igate the causes of safety problems.

Suggestions: To achieve their full potential, employ- ees need to be challenged. An organization should have a plan to develop employees through job rotation, cross- training, educational opportunities, and special projects. The development plan should list the skill areas needing attention and the disciplines to be completed within each required item in the development plan.

Most companies offer special services and opportuni- ties to employees; programs of this nature should satisfy employees' needs. For example, a company could offer math- and reading-skill enhancement programs to em- ployees who work with blueprints. Companies need to be progressive by comparing their programs with the pro- grams of other companies (competitors or world-class organizations) to determine areas needing improvement.

Employee satisfaction is important; thus, a thorough and objective process to measure their satisfaction is necessary. Surveys are a good start, but other indica- tors—such as turnover rates, exit interview feedback, and absenteeism rates—should be examined. Companies must have a closed-loop process in which evaluation systems are planned and implemented and the data gath- ered are analyzed and reported.

Trends in safety, absenteeism, turnover, attrition, griev- ances, strikes, and worker compensation over several years should be presented. It is important to make comparisons with industry leaders, industry averages, and competitors, if possible, to make the results more meaningful.

Additional Suggestions

When completing category 4, the applicant should include its human resource development and manage- ment strategies and demonstrate that they are appropriate and effective. In addition, when completing any of the categories in the Baldrige Award application, applicants should be concise, factual, and quantitative, avoiding empty narrative. They should pay great attention to deployment, results, and outcome and demonstrate strat- egy, prevention, and continuity.

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TDY 93/94 IN BRIEF

APPLYING TQM PREMISES TO HRD

Source: "Human Resource Development Already Embraces Total Quality Management—Or Does It?," by Barbara L. Swanson, *Human Resource Development Quarterly*, Summer 1992, pp. 113-119

HRD is being increasingly impacted by the total quality management (TQM) movement, says the author—the management philosophy that "institutionalizes continuous improvement of all processes in the sociotechnical system of organizations." The author then briefly outlines the basic TQM premises, such as continuous improvement, innovation, customer-orientation, reliance on line employees to suggest improvements, HRD investment, revamping the system, and management support. Next, she discusses the 4 major areas of theoretical thinking which anchor these TQM premises to practice: theoretical knowledge, systems theory, statistical theory, and psychological theory. For each of these areas, she spells out the implications for human resource professionals. She concludes: "HRD professionals who understand TQM have two major challenges: to enlighten management regarding what customer focus and leadership mean, and to refuse to assume responsibility that is not theirs." She stresses developing a true customer-supplier partnership between managers and HRD. (AN6)

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OBOOK ON IMPLEMENTING TQM IN NING

ce: *Total Quality Training: The Quality e and Quality Trainer,* by Brian Thomas, aw-Hill Book Company Europe, 1992, 185 , £18.95

h Total Quality Management forcing companies mine each aspect of their structure and operations ain competitive, the training function, too, must to apply a Total Quality (TQ) approach, contends hor. In the first several chapters, he introduces the concept, and he defines terms such as "variable rds of performance," "market clarity," "customer ," "matched pairs analysis," "Pareto analysis," and tical process control." Then he discusses the eco- s of quality and the relevance of TQ principles to ll service functions such as training. Next, he ghts the quality problems in training, drawing from n experiences in the training world. He undertakes ne who is the "customer" of training: in particular, urse participants and their management. Then he at quality methods as they apply to training: (1) sed focus on error prevention, (2) improving rela- ips with suppliers, (3) quality circles, and (4) sys- c quality improvement. Finally, he looks at TQ as es to the human dimension and the organizational t. An appendix to the book includes a Self- sis Inventory designed to help a trainer see to what he or she subscribes to quality principles. (AN7)

NING AS A QUALITY MANAGEMENT ATEGY

ce: *The International Quality Study℠ Best ices Report: An Analysis of Management ces That Impact Performance,* Ernst & g and the American Quality Foundation, 48 pages, $50

er implementing management practices that were d to lead to improved quality, many companies xperienced mixed results. In an attempt to understand why, the American Quality Foundation teamed with Ernst & Young to study the effectiveness of 945 management practices in over 580 organizations in 4 industries in North America, Japan, and Germany. On the basis of profitability, productivity, and quality, they classified organizations into 3 categories: lower performers, medium performers, and higher performers. What they found was that emphasis on or increase in management practices which helped lower performers achieve improved results sometimes had opposite effects on higher performers, and visa versa. Trainers will be especially interested in the report's conclusions on training in various types of organizations.

- **Lower performers.** More training is related to better performance, both for general and quality-specific training for all levels of employees: senior management, middle management, and non-management employees. Performance impacts are immediate with particularly strong impact on profit. Customer relationship training is particularly vital.
- **Medium performers.** Benefits of increasing levels of training are less pronounced. Required training on specific topics for middle managers and non-management employees is the only training seen as beneficial, and there is no benefit from further increasing the training hours.
- **Higher performers.** The observations are similar to those for medium performers. A combination of providing customer relationship training to employees when they are first hired and again when it is urgent seems to work best for this group.

"We believe that the need for developing the skill infrastructure is so pervasive in the lower-performing organizations that virtually any increase in training can benefit overall performance," the report concludes. "Once the base level of skills is in place, though, organizations must invest to maintain the base. They must also become more critical in aligning new training with the particular needs of the organization." (AN8)

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C. GAINING ORGANIZATIONAL SUPPORT FOR TRAINING

WHY HRD PROFESSIONALS MUST BE MARKETING ORIENTED

by Jerry W. Gilley and Steven A. Eggland

In 1977 Theodore Levitt wrote a classic article addressing what he called "marketing myopia." In it he revealed that every major industry was once a growth industry. However, as he pointed out, some industries continue to grow while others decline. "In every case the reason growth slowed or stopped," he stated, "is not because the market was saturated, [but] because there had been a failure of management to think strategically" (Barry, 1986). This same situation could face the field of human resource development (HRD).

Let us look at the value of strategic thinking for HRD. Such thinking can be defined as a process of systematically organizing the future, a process in which you utilize past experience as a filter for future decisions. It also allows you to consider the possible outcomes of your decisions or actions before implementing them. Strategic thinking can be used to identify the actions required to change the image of HRD as well as the opportunities available for HRD within an organization. It can also specify what an HRD program will achieve and what financial and human resources will be needed to accomplish it. In reality, strategic thinking is more of a discipline than a process. HRD practitioners must develop the discipline to think about the future impact of HRD and react accordingly. This may require them to become "active" members of the organization's management team—to become proactive rather than reactive.

We believe that strategic thinking is a part of the marketing planning process. We will refer to it, then, as strategic marketing planning. For HRD it consists of six steps: (1) mission ("why"); (2) operational evaluation ("barriers"); (3) goals and objectives ("outcomes"); (4) target market ("who"); (5) marketing mix ("how"); (6) integration and implementation ("action"). These steps are outlined in Figure 1.1.

In order for marketing to be successful, HRD practitioners must adhere to two fundamental laws of marketing: the marketing concept and the exchange process.

The Marketing Concept: A Process of Client Satisfaction

The first law of marketing is the marketing concept. In HRD it can be defined as the improvement of performance deficiencies and the satisfaction of developmental needs of clients through HRD interventions. HRD interventions include training programs and HRD services. Clients are the people who benefit from the training programs, career development activities, and other services provided by HRD practitioners. This group includes employees, managers, supervisors, and executives. The organization is an indirect client of HRD because it is the ultimate benefactor of the clients' increased knowledge, skills, or improved behavior. HRD practitioners who direct all their efforts at satisfying their clients are practicing the marketing concept. From this orientation, marketing is not used to manipulate clients but is focused on identifying and addressing the performance problems and developmental needs of the clients and the organization. As a result, training programs and services will be designed and developed in accordance with the clients' expressed interests. This will assure that the HRD program is centered around real client problems and needs. If it is, the HRD program will be supported as well as defended by users during difficult economic periods because training programs and HRD services are viewed as essential and even vital to the organization and its members. The marketing concept, however, cannot be applied unless the HRD practitioner develops a service-oriented attitude, that is, an attitude of considering the thoughts of others before developing training programs. In this way, the practitioner's "ego" will be better managed and controlled.

The Exchange Process

The second law of marketing—its central concept, many believe—is known as the exchange process. We define the exchange process as the offering of value to another party in return for something of value. In the case of HRD, training programs and services must be viewed by clients as at least equal in value to the time, energy, and personal commitment exchanged for them. If the benefits to be received from a training program are viewed as greater than or equal to the time, energy, or personal commitment required from its clients, an exchange will take place. If, however, the benefits of training are not viewed in this way, an exchange will not take place. While this is a simple concept, it is often overlooked by HRD practitioners as they strive to develop HRD programs. It is important to remember that the more positive exchanges that occur between the HRD program and its clients, the more favorably the program will be viewed.

In order for you to become professional marketers of your HRD program, you must become skilled at understanding, planning, and managing exchange. You will need to develop skills in several areas, including how to identify and understand the performance problems and

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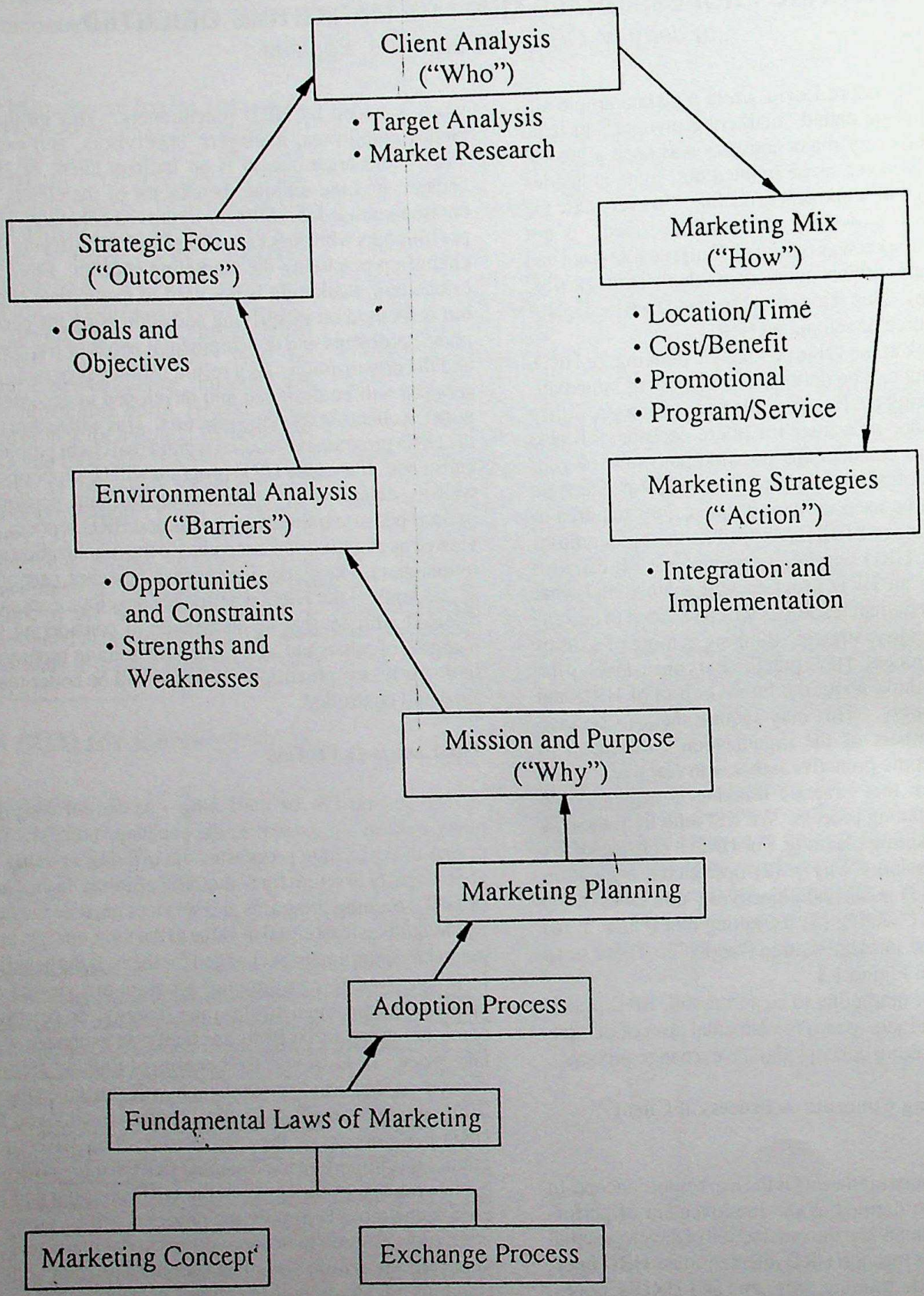
Figure 1.1. The Strategic Marketing Planning Process



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developmental needs of clients; how to design a training program or service to meet clients' problems and needs; how to communicate the values of a training program to clients; and how to determine the correct time and place for training. Each of these skills will be addressed later in this book.

When Is Marketing Appropriate for HRD Programs?

If strategic marketing is a technique designed to enhance the image and credibility of HRD then it is essential to know under which conditions strategic marketing is best used. An answer to this question would help HRD practitioners better focus their marketing efforts and also make those efforts more effective. Of all the relevant conditions, eight are particularly important.

1. Strategic marketing is most appropriate when the image of the HRD program and its practitioners is unclear, diffuse, distorted, or misunderstood. This condition often becomes evident when the HRD program's budget shows major fluctuation. A history of such up-and-down budget adjustments may indicate that management is uncertain as to the role of HRD and its practitioners. Another sign of a negative image is when managers and employees do not view HRD as essential to the advancement of the organization and its mission. A third sign is when the salaries of HRD practitioners begin to decline in relationship to those of other employees. Finally, when other departments within the organization are becoming increasingly responsible for the design, development, and delivery of training programs, then HRD is in a poor state.
2. Strategic marketing becomes critical when the impacts of the HRD program cannot be identified. This is most common when HRD practi-tioners have not conducted cost-benefit analyses of their training programs and services. It is important to remember that a strategic marketing effort is less effective after management has begun to question the effectiveness of HRD. Management will view such an effort as hostile, defensive, and self-serving. Strategic marketing should be a proactive rather than reactive approach.
3. HRD practitioners should consider the economic condition of the organization and its industry. Strategic marketing of HRD has little impact when an organization is experiencing an economic downturn. Survival is then the watchword of the day. One method of reducing the negative impact on HRD during such periods is to demonstrate the value of HRD for the organiza-tion's profitability. Either a cost-benefit approach or results evaluations will do this admirably, but they must be conducted and communicated to upper management several quarters before the economic difficulty arises.
4. When training programs and services are not based upon the performance problems and developmental needs of the organization and its employees, HRD programs are in serious trouble. Strategic marketing is designed to help HRD practitioners combat this problem. The primary purpose of strategic marketing is to provide an approach that increases client satisfaction. As we have seen, the marketing concept and the exchange process are two examples of how strategic marketing can help HRD practitioners accomplish this purpose.
5. When HRD practitioners cannot identify the most appropriate markets for their training programs and services, strategic marketing becomes essential. This condition is best addressed by implementing a program strategy outlined in Chapter Six. A closely related condition occurs when training programs experience declining or faltering demand. When this begins, HRD practitioners should examine the demand state of the training program and implement one of the appropriate marketing responses described in Chapter Two.
6. Strategic marketing is also appropriate when HRD training programs go unnoticed. Under such conditions, a promotional communications strategy is critical. This type of strategy is discussed in detail in Chapters Eight and Nine.
7. When an organization has recently been merged or acquired and/or a change in upper management has occurred, it is very important to communicate the utility of HRD. At this time strategic marketing becomes vital. The six-step process outlined in the opening section of this chapter should be implemented. Remember, HRD is competing for limited resources. It is the HRD practitioner's responsibility to acquire an appropriate level of funding and support.
8. Organizational culture often shifts or changes. Today, many organizations are focusing on productivity and total quality management as a way of competing. HRD and its practitioners must understand such shifts and changes and adapt their programs accordingly. They must then communicate how HRD enables the organi-zation to obtain its new cultural thrust. Strategic marketing allows HRD practitioners to examine their entire program and its offerings. It provides them with a systematic and strategic approach to getting things done—an approach that is essential in today's organization.

If one of these conditions exists or several of them exist in combination, a strategic marketing approach may be appropriate.

(Editors Note: For a summary of the entire contents of this book, see the abstract on page 2.33.)

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SIMPLIFYING ROI

by James Hassett

Everyone can always use more training. Every single erson in your organization could probably benefit from :arning new job skills. On the other hand, everyone ould also use a week off, another $10,000 in the bank and :esh mints on their pillows each night.

On any given day, managers would rather see their mployees working on the job rather than in a classroom r training center learning how to become more efficient. he costs of training are always easier to see than the costs f not training. Therefore, the question of whether em-loyees need more training inevitably comes down to me and money. Will the time and money you invest oday in training be repaid—with interest—in the next veek, month, year or decade?

How do you measure a particular training program's ontribution to the bottom line? Several state-of-the-art ost studies prescribe exacting methods for tracking eturn on training investments. These methods are cer-ainly worth considering However, a more modest four-tep procedure called training investment analysis can be n attractive alternative. This procedure can help you btain a simple, straightforward estimate of the impact of ny training program on your organization's bottom line.

ROI Research

There's a long, rich history of research on the effects f training—both economic and noneconomic. From nthologies such as Lakewood Publications' *Evaluating raining* to Donald Kirkpatrick's classic 1975 article Evaluating Training Programs" in *Training & Develop-ient* magazine, innumerable researchers and practi-oners have offered models and words of wisdom on valuating training.

Kirkpatrick delineated four levels of training evalua-on: reaction ("How did you like the training?"), learn-ng ("What do you know now that you didn't know efore?"), behavior ("What do you do differently?"), and esults ("How did the training affect your organiza-on?"). Each succeeding level of evaluation is a bit more ifficult to perform and less frequently done than the one efore it.

Measuring results does not necessarily mean measur-ng a monetary return. For example, for the last several ears, our company has worked on a series of training rograms regarding new computer systems used by flight andards inspectors in the Federal Aviation Administra-on. The primary mission of the FAA is to increase viation safety. In this context, a results study would ocus on using the computer systems or on the effective-ness of inspection programs for aircraft and personnel, not on profit and loss.

Even profit-making institutions have training pro-grams that are not designed to increase profits. In the banking industry, for example, employees are trained to comply with government regulations.

However, in any organization that seeks to make a profit, one of the most compelling demonstrations of a training program's effectiveness will be its effect on the bottom line, or what is often called return on investment (ROI).

In 1990, *Training and Development* published "Re-turn on Investment: Accounting for Training," a special report by Anthony P. Carnevale and Eric R. Schulz that summarized the American Society for Training and Development's (ASTD) research on this issue. In that survey, two out of three training managers reported they felt increasing pressure to show that programs affect the bottom line. However, only 20 percent of these same organizations did ROI studies, in part because they felt this type of evaluation "takes too much time or is too costly."

Another recent review (published in *TRAINING*, Au-gust 1991) cited a Federal Express analysis as a good example of the state of the art in measuring ROI. The study focused on 20 employees who went through the company's two-week training program soon after being hired to drive FedEx vans. Their performance was compared with a control group of 20 other new hires whose managers were told to do no more (nor less) on-the-job training than normal.

Performance was tracked for the two groups for 90 days in categories such as accidents, injuries, time-card errors and domestic air-bill errors. The 10 performance categories had dollar values assigned by experts from engineering, finance and other groups. The cost of each accident, for example, was placed at $1,600.

The basic math for computing the ROI was straight-forward. The annual cost of errors for untrained couriers was estimated at $4,833, vs. $2,492 for trained couriers. That works out to a training-produced difference of $2,341 per person per year. This is $451 more than the cost of the $1,890 training course (a price tag that includes instructors' and trainees' salaries, as well as the costs of hotel, meals, airfare and covering couriers' duties during training). When this savings of $451 for one courier is multiplied by the 1,097 new employees who went through the program in a recent year, the ROI for that year was $494,747. This represents a very healthy 23.9 percent return on investment. The study itself cost about $10,000 and took five months.

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This kind of rigorous evaluation doesn't make sense for every training program, however. Would you spend $10,000 to evaluate a $5,000 program? Even if you can afford the cost, can you afford the time? The ASTD report cites the case of a $40,000 study conducted by New England Telephone to measure the effectiveness of a technician training program. Trouble was, by the time the report was completed, "everyone familiar with the evaluation had left the department that financed it."

The need for a more modest approach, at least in some cases, is obvious.

Meanwhile, Back in the Real World

Many people seem to believe that corporate bottom lines provide an objective measure that can be used as the basis for a harsh brand of frontier justice: A manager makes a decision, it increases profits or it doesn't, and the manager gets a raise or is fired as a result. In the real world, managers and accountants know that nothing is ever that cut-and-dried.

Anyone who has ever written and enacted a business plan knows that financial predictions often fail to match reality. It would be nice to have a simple, inexpensive and unambiguous system for deciding what actually caused a business venture to succeed or fail. But in practice, this is somewhere between prohibitively expensive and impossible. This leads directly to a key fact underlying the rationale for training investment analysis:

Fact 1: Many interrelated factors affect profit and loss; training is just one.

This seems painfully obvious. Training by itself, almost never determines the bottom line. But it is easy to lose sight of this fact when you are doing a study that focuses on training's ROI.

Intuitively we know that, under some conditions, training does increase efficiency and profits. If you want people to sell a complex product, they must know what it is. If clerks are to enter orders on a form, they must be trained to fill out forms accurately. For those who distrust such intuitions, the Federal Express study is just one in a long series of studies that supports this conclusion.

However, it also follows that, under other conditions, even the best training will not increase profits.

Suppose an eccentric entrepreneur believes that 8-inch floppy disks are going to make a comeback due to a ground swell of support for used computers. He believes that training his sales force is crucial, and he hires the best trainers in the business. But his prediction is wrong: Nobody buys the used computers or the disks.

Does that mean that the training was at fault? Of course not.

Or suppose that a full-service brokerage firm is concerned about losing clients to discount brokers. It decides that training its employees in customer support will reverse this trend. The firm invests in a customer service training program for all of its brokers and support personnel.

Unfortunately, the company also decides to continue charging an 8 percent front-end load to cover sales commissions and 4 percent per year for marketing expenses. The week that the training is completed, the cover of *Money* magazine gives the firm an award for the all-time-worst buy in mutual funds. Again, in profit-and-loss terms, the training likely will have no impact. But the reasons customers go to the competition have nothing to do with the training.

External factors (such as the state of the economy and the world) are difficult to analyze and nearly impossible to control. If you look at everything that happens after a training program as the result of the training, you are falling into a classic fallacy. Logicians even have a special name for this error in thinking: "post hoc ergo propter hoc," which means "after this, therefore because of this," which is not logically correct.

Thus, a definitive analysis of a training program's ROI is impossible until enough time—months or years—passes and the impact becomes clear. Even then, the results are never entirely unambiguous because it is so difficult to unravel the effects of training from other variables.

All of this leads, indirectly, to a second fact underlying training investment analysis:

Fact 2: The most important analysis of training's return on investment occurs before a training program is offered—not after it is over.

A year after the training is over, your company will move on to new challenges. If the training worked, it may be no longer relevant. And if the training failed, it may no longer matter.

According to an old Chinese proverb: To prophesize is very difficult—especially with respect to the future. Yet that is precisely what we do with each new business decision and each new training program. It follows that training investment analyses that are performed after the fact are mostly for the record book. They have a place in long-term corporate policy, but the most important training to evaluate is not last year's, it is next year's. That's the program you will go ahead with or cancel. And that's the program that will affect the bottom lines you care about most: this year's and next year's.

ROI Focus

Before you begin a training investment analysis, ask: Will (or did) this training program give employees knowledge or skills needed to meet organizational objectives that are not directly measured by short-term profit and loss? If the answer is "Yes," then a single-minded focus on the bottom line is misplaced. Instead, you should consider analyzing noneconomic results of the program, such as improved compliance with regulations or safety procedures.

If the training is aimed at increasing profits, assess how profit is measured in your organization and whether it is necessary to show how profit is linked to training.

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Seek out the views of key decision makers, and talk to them first about their expectations and needs.

For example, in a December 1991 article about Federal Express in *Training & Development*, founder and chairman Frederick W. Smith says: "You could never cost justify the cost of our FXTV network or our interactive video training system. But if you ask me, those would be among the top 10 highest payoff projects we've ever done at Federal Express. Maybe even in the top three." As the article explains, Smith believes it's important for the company's leadership to support things like quality and learning "that cut across the organization and don't have a clear ROI." This strong corporate belief would make a study of training investment analysis at best redundant, and at worst subversive.

The KISS Rule

It is hard to go wrong following the KISS rule—Keep It Simple, Stupid. Training investment analysis explicitly recognizes that in many situations, the best available information is an informed estimate. That being the case, the accompanying worksheet is designed to simplify the process so that these informed estimates can be reached as efficiently as possible and then put into action.

Note that training investment analysis represents a small retreat from more formal evaluations with control groups, before and after tests, and complex methodology. But also note that an easier analysis procedure makes it more practical for you to focus on the bottom line when it matters most as you plan your training.

Here are the four steps to a training investment analysis.

1. Determine the information your organization needs.

A training investment analysis should always use the same financial procedures and terminology that other departments in your company use when they evaluate a potential investment in equipment or software. If another department has produced a report, get a copy. You may find that others avoid the term return on investment and use an alternative accounting concept such as the payback approach or the net present value approach or the rate of return approach. If so, you should do the same. Learn to speak the same language as your financial people, and calculate costs the same way they do.

If your organization requires a sophisticated analysis, you may be able to apply models developed in previous studies of training ROI, such as:

- Ives and Forman's multilevel ROI model, including cash in-flow benefits and depreciated costs (*CBT Directions*, June 1991).
- Spencer's step-by-step model for calculating the costs and benefits of an HRD program (*TRAINING*, July 1984).
- Godkewitch's examples of financial utility equations (*TRAINING*, May 1987).
- Schneider, Monetta and Wright's innovative use of a management inventory to measure the ROI of a supervisory course (*Performance and Instruction*, March 1992).

However, if your organization does not demand this level of analysis, these methods may be overkill. This leads to the second step in training investment analysis.

2. Use the simplest and least-expensive method possible for finding the information you need.

In many settings, the Training Investment Analysis Worksheet will provide all the structure that you need to calculate the returns from your training program. You can use it to predict the effects of a new training program or to study the effects of an old one. It also can be used to generate the best guess or a range of possible effects—from the lowest return to the highest possible return.

At the top of the worksheet, record the overall objective of the training program, its audience and the time period in which you expect the training to produce significant economic results. For most organizations, one year is a good place to start.

If your company is known for its fiscal patience and its emphasis on long-term results, you may want to look at effects over two or three years, since longer periods will generally show greater effects. At the other extreme, if your company's stockholders prefer instant gratification, and anything beyond the next quarter or two is considered the distant future, you may be forced to analyze the return over three to six months, even if this underestimates the total value of the training to the corporation.

Part 1 of the worksheet calculates the revenue produced by training. Two options are provided. Option A, itemized analysis, provides a list of ways in which training may increase revenue: increased sales, higher productivity, reduced errors (for example, in manufacturing or billing), client retention, employee retention, and other. For example, let's say a sales training program for computer networks results in five additional sales per person per year. If each sale produces a marginal profit of $10,000, and there are 20 sales people in the department, the total revenue produced by training is five times $10,000 times 20 or $1 million.

Some of the figures requested here are unambiguous, such as the number of employees and revenues per sale. However, in each category, at least one of the figures requires an informed estimate of training's effects, such as the additional sales per employee, the percent increase in productivity or the number of errors per employee avoided as a result of training.

This leads to one of the most important elements of training investment analysis: *Whenever possible, judgment calls that quantify the effects of training should be made by decision makers or management.* Admittedly,

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TABLE 1
TRAINING INVESTMENT ANALYSIS WORKSHEET

Objective: _____

Audience: _____

Returns measured over: _____ One year _____ Other _____

PART 1: CALCULATING THE REVENUE PRODUCED BY TRAINING

OPTION A—ITEMIZED ANALYSIS

Increased sales:		_____	Additional sales per employee
	x	_____	Revenues (or margin) per sale
	x	_____	Number of employees
	=	_____	Revenue Produced by Training I
Higher productivity:		_____	Percent increase in productivity
	x	_____	Cost per employee (salary plus benefits plus overhead)
	x	_____	Number of employees
	=	_____	Revenue Produced by Training II
Reduced errors:		_____	Average cost per error
	x	_____	Number of errors avoided per employee
	x	_____	Number of employees
	=	_____	Revenue Produced by Training III
Client retention:		_____	Average revenue per client
	x	_____	Number of clients retained
	=	_____	Revenue Produced by Training IV
Employee retention:		_____	Average cost of a new employee (training plus lost productivity)
	x	_____	Number of employees retained
	=	_____	Revenue Produced by Training V
Other:		_____	_____

Total Revenue Produced by Training: R _____

OPTION B—SUMMARY ANALYSIS

_____	-	_____	=	_____
Revenue After Training		Revenue Without Training		Revenue Produced by Training

PART 2: CALCULATING THE RETURN

_____	-	_____	=	_____
Revenue Produced by Training		Cost of Training		Total Return on Training Investment

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these figures will be informed estimates rather than unassailable truths. However, if decision makers are responsible for making the estimates, they will be far more likely to accept your final conclusions. Their participation in your estimating process is likely to increase their support of training investment analysis. At the very least, this process will make it clear that the training department is sensitive to bottom-line issues and is doing as much as possible to tailor its training programs to increase profits.

After all of these judgments have been made and the calculations have been performed, the total revenue produced by training is the sum of the estimates from all categories.

In complex situations in which it's difficult to assign the effects of training to distinct categories, the only practical way to calculate training's effects will be to use Option B, the summary analysis. Very simply, this calculates the difference in revenues with and without training. Suppose, for example, that the current sales forecast for next year is $4 million in profit. But key decision makers believe that with the added boost of a sales training program, this figure can be increased to $5 million. The revenue produced by training is then $5 million minus $4 million, or $1 million.

Once Part 1 is completed, Part 2 calculates the return by subtracting the cost of training from the revenue it produced. In the case of our mythical sales department, if it spent $200,000 on a custom-designed training program, the return would be $1 million minus $200,000, or $800,000.

3. Perform the analysis as quickly as possible.

There is always a trade-off between the rigor of a study and the time it takes to perform. Clearly, training investment analysis sacrifices rigor for simplicity and immediacy.

There are many times when a rigorous study of ROI is justified and possible. But remember the New England Telephone study, which was out-of-date by the time it was completed. The training investment analysis approach is designed for situations in which time and money are severely limited. The worksheet focuses attention on the elements of a training program that are most likely to have an impact on the bottom line and then makes an educated guess. This can improve the accountability of the training department in a way that is visible throughout your organization.

4. Publish and circulate the results.

Ideally, your summary of the results should be a desktop publication with the quality one would expect of any important corporate document. It should reinforce the idea that training is an investment and could even include information on training expenses in other companies. (For example, Federal Express spends 3 percent of revenues on training; IBM spends 5 percent of payroll.)

If you find that a particular training program will cost more than it will produce, publish and circulate the results just as quickly as you would with a positive study. It will increase your credibility as some one who is willing to face harsh bottom line realities and adjust to them.

With any luck, your study will provide irrefutable evidence of what trainers have known all along: Many training programs pay for themselves by increasing profits and/or reducing costs. In fact, the next time your company decides to reorganize into a leaner and meaner operation, the training department will probably need to be expanded.

SERVICE RECOVERY FOR TRAINERS

by Chip R. Bell and Kathy Ridge

We all know it when we experience it. Things go wrong—the never-wear-out jeans wear out, the laundry cracks a shirt button, the steak is too rare, or the knock in the engine comes back again. We feel let down, taken advantage of, or just plain furious. It happens to our training customers too. We publicize the wrong dates for a program, a trainer becomes ill at the last moment, you don't have enough handouts, or a course is canceled due to weather but not in time to notify the participants. How can trainers recover when customers are disappointed?

Training departments, consulting firms, and T&D companies are not exempt from service breakdowns and customer disappointments. No service system is 100 percent perfect. We have seen how frontline workers for other service providers can turn disappointment into customer satisfaction—sometimes even into customer delight. Trainers can learn a lot about delighting their customers and making lemonade out of lemons, from customer service examples such as those touted in their own training programs.

Service recovery includes all the actions the people in your training unit take to move a customer from a state of disappointment to a state of satisfaction. Like a hospital or doctor that gets a sick patient back to normal, service recovery gets a customer "back to normal." But great service recovery does not happen by luck, or solely through the interpersonal skills of the front line. Effective service recovery is a planned and managed event.

You may be thinking: "Is service recovery something I even need to talk about? Why not put all my energy into doing it right the first time? Besides, maybe concentrating on possible mistakes causes those mistakes to hap-

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pen more often—sort of a Pygmalion effect. Shouldn't the goal of our training unit be zero defects?"

If service was always perfect we wouldn't need to talk about it. But no service system is ever perfect. And, every customer defines good service differently.

Have you ever noticed how a small mistake can cause one customer to say "no problem," while that same mistake makes another customer livid? Put two requesting managers on the waiting list for a popular HRD program and one will be polite and understanding; the other will get angry.

Service recovery includes all the actions people in the training unit will take to move a customer from a state of disappointment to a state of satisfaction. One of the noticeable differences between the top service providers and the also-rans—Delta versus Mayday Airlines; or Marriott Hotel versus Snoozer's Inn—is that they do not leave recovering from customer disappointment to chance. The super service providers have thought through how they will handle service breakdowns.

What about your training unit or HRD consulting organization? Look at your customers' trail of experiences with your unit. Are there points along that trail where disappointment frequently occurs? Do you know what your customers most often mention when they complain about your unit's service? How do you deal with the person who is turned down for a request? What do you do about the occasional long waits involved in getting into one of your training programs? How disappointments are handled reflects on customers' overall perceptions of service from your unit.

What Customers Expect After Being Disappointed

Just as customers have expectations for service (what they think ought to happen initially), customers also have notions about what should happen after a service breakdown has left them disappointed. Customer expectations for service recovery will vary depending on whether their experiences leave them feeling neutral, annoyed, or victimized. But our research shows a predictable set of generic expectations.

The following five expectations may serve as guidelines for planning your training department's response to customer dissatisfaction:

- The customer expects an apology for the inconvenience.
- The customer expects a "fair fix" for the problem.
- The customer expects to be treated as if the training department cares.
- The customer expects to be offered some value-added atonement.
- The customer expects you to keep your promises.

First of all, the customer expects an apology for being inconvenienced. This may seem like a blinding glimpse of the obvious, but an apology can go a long way toward calming an irritated customer. And though a simple apology costs nothing to deliver, the customer is likely to get one less than half the time. Many training staffers, encountering an irate training customer, react as other frontline customer contact people do: "Hey, this wasn't my fault!"

They assume an apology implies culpability. The receptionist on the phone who repeatedly has to tell an irate manager that you are conducting a workshop might feel no need to apologize for your inaccessibility when the manager explodes—after all, it's not the receptionist's fault. Likewise, you might not feel a need to apologize to the manager upon returning the call—after all, you were only doing your job and can't be expected to leave the classroom every time you receive a phone call.

But a personalized apology lets that irate customer know that you understand the frustration of being inconvenienced. It can go a long way toward preventing serious negative impressions of your training unit.

An apology is most powerful when delivered in person and in the first person singular. A corporate form letter lacks the sincerity and authenticity of a personal, verbal acknowledgment delivered on behalf of the unit. Likewise, use the pronoun "I" instead of "we."

"I'm sorry for any inconvenience this may have caused you" suggests that the service provider is taking a personal, professional interest in the situation. In addition, personally apologizing for the effect of an error on the customer, rather than joining the customer in blaming someone else in the training area, signals your interest in helping the customer, not in fixing blame.

A statement such as "I'm sorry you haven't received the prework assignment. I know this means you'll have less time to get it completed than you'd planned..." is far better than "I guess that temporary secretary didn't send your prework out. I told him to mail all packets out by Friday, which would have been plenty of time...."

The customer expects a "fair fix" for the problem. The typical customer does not expect a pound of flesh for every snafu. Most customers bring a sense of fair play to the table when service breakdowns occur. If the service provider offers a rational explanation and demonstrates sensitivity and concern, customers will respond in kind.

It is quite revealing to ask customers what they think a fair fix might be for a problem. When telephone subscribers were asked what they expected from the phone company when service failures occurred, they made a very clear distinction between a service failure that happened on a weekend and one that occurred on a weekday.

Most thought it was OK for the phone company to respond more sluggishly on a weekend. They figured that phone company employees like to spend weekends with their families, just like the customers themselves do.

Training customers also expect fair fixes that demonstrate the trainers' sincere interest in them and the problems they are trying to solve.

For example, say a senior manager has requested an immediate training program to remedy some scattered performance problems in his or her division. He or she is more likely to respect a response that offers an in-person

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consultation than a flat refusal, such as "No, we can't put together a program that fast!" You may not be able to provide what is wanted, but a fair fix still offers the manager an attempt to address the problem.

The customer expects to be treated in a way that suggests the training department cares about the problem, about fixing the problem, and about the customer's inconvenience. Customers experience every service encounter as both an outcome (or result) and a process.

Outcome is the culmination of having a service need met—the successful class registration or the approved tuition refund. Process is the experience the customer has while the need is being met—the waiting time, the paperwork, or the courtesy of the training department receptionist.

Likewise, service recovery involves an outcome and a process. The outcome is a solution the customer finds satisfactory. But the process part of the encounter may be equally important to the customer's overall satisfaction with the transaction.

Customers generally do not expect service providers to be perfect, but they do expect providers to care about the work they are doing and the customer's satisfaction with it. How that care is demonstrated during the recovery process separates the service-recovery stars from the service-recovery also-rans.

Hear the customer out, for example, even when you recognize the problem and the cure from the second word. Stay calm. Enlist the customer in generating an acceptable solution. In short, demonstrating care to the customer involves a mixture of interpersonal and problem solving skills.

The customer expects to be offered some value-added atonement for the inconvenience. At the most basic level, atonement is a gesture that says, "We want to make it up to you." Atonement can take the form of "It's on us," or "Naturally, we won't charge your budget for this." It is a demonstration of good will.

Atonement isn't always required for effective recovery from every breakdown. But if the customer has been injured in the process—if she or he feels victimized, greatly inconvenienced, or somehow damaged by the problem—then atonement is critical.

It may cost the training department real money, but the act of atonement is essentially symbolic. Little things, sincerely done, mean a lot to the customer. Sending a best selling business book on the topic of the workshop that's been canceled may be more appropriate than offering a registrant a free dinner at the restaurant of his or her choice. Your customers do not expect you to shoot the training manager or give them free trips to Disney World for keeping them waiting in the reception area an extra 10 minutes.

The customer expects you to keep your promises. This expectation boils down to reliability: Can your customers rely on your unit to deliver what it promises? If you promise to send a past participant an article by the end of the week, don't let the following Monday come without getting the article into his or her hands.

If for some reason circumstances prevent a promise from being kept, let the customer know as soon as possible. Customers would rather hear bad news than be lied to or misled.

Acquiring a Customer Orientation

Were there no big surprises from that discussion of the five expectations? Do they seem pretty reasonable? Then why do so many organizations and units have so much trouble accommodating them?

The answer is that many training departments do not have a customer orientation. They do not think of themselves as service providers, dependent on satisfied customers (much less delighted ones) for their continued success.

They might avoid looking at themselves through the eyes of their customers to anticipate what could conceivably go wrong or what disappointment could occur.

The worst-case explanation is that trainers decide they know more than their customers do about providing training and therefore discount any customer's dissatisfaction.

What about those training units that are customer-driven and that strive for exemplary customer service to their internal clients? Even some of them inadvertently create conditions under which the presumably simple task of satisfying simple expectations turns into a Herculean feat. Relatively few service providers have empowered or trained their employees to recover gracefully from snafus. Few have built reliable support systems to back up employees who do try to recover. Few have done much hard thinking about the recovery process.

But you can. Use your training staff's creativity and needs assessment skills to design recovery actions appropriate to your situation. Use staff meetings to explore ways to manage difficult customers effectively. Role playing can be powerful behavior rehearsal that bolsters competence and confidence on the front line.

Train your trainers on accepting responsibility for fixing customers' problems rather than shifting the blame. Emphasize the importance of caring for every training customer. Preplan a strategy for fair fixing and offering atonement to disappointed customers, based on effective ways you have tried or witnessed in the past.

World-class service recovery doesn't happen by accident—at least, not in any organization that has managed to make excellent service a distinctive feature of its reputation. Neither is it strictly a matter of hiring good people and training them well. It is achieved only through a set of systems, operations, and actions that are painstakingly planned, constantly refined, and carefully executed.

Remember, that wonderfully helpful service agent at L.L. Bean, Federal Express, or General Electric is only the most visible element in a much larger scheme.

We know that a customer who has had a problem elegantly solved can become more loyal than a customer who has never had a problem with the service provider.

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We also know that when problems occur that affect the customer, the customer relationship needs to be "fixed" before the customer's problem is addressed.

Most customers don't care how much you know until they know how much you care.

Planned service recovery may be a tool to enhance your training unit's reputation and credibility. And, in this heyday of companies outsourcing their training work to external providers, smart service recovery may be the edge that keeps you in business.

Tips for Frontline Service Recovery

The steps that frontline people take when dealing with a customer who is disappointed with the service received from your unit are key to turning "oops" into opportunity. The steps below offer frontline training people a planned approach:

- **Apologize.** Tell the customer, "I am so sorry that happened to you." Be sincere and sound sincere. An insincere response will be instantly read by customers as patronizing. Customers need to feel that you really do care that they were disappointed.
- **Listen, empathize, and ask open questions.** It is important to learn how the customer feels about the situation. Listen and look as if you are listening. Your words should let the customer believe you can truly appreciate and understand the reasons the customer feels as he or she does.
- **Solve the problem quickly and fairly.** The customer needs to witness your urgency. Let him or her hear such words as, "Let me call right now," or "I will correct that situation immediately." Take steps to get the ball rolling. Get the customer involved in helping you identify a fair solution. Joint problem solving creates a partnership and helps rebuild the trust lost by the service breakdown.
- **Offer atonement.** Look for a token of your sorrow that fits the customer and the situation. It may be a special favor ("I will put you at the top of the list next time") or an appropriate object ("Since we have to schedule you in a later training class than you preferred, it would be my pleasure to send you an excellent article on the course content.")
- **Keep your promises.** As the legendary comic Flip Wilson used to say, "Don't let your mouth make a promise your body can't keep." Let customers experience that you are a person of your word. If you have to break a promise, let the customer know about it as quickly as you can.
- **Follow up.** Check back with the customer to learn if your solution was effective and if the customer is emotionally back to normal. Also, follow up internally to let others in your unit know of the problem the customer experienced. This gives your unit a way to spot patterns and trends that need to be stopped so future customers will not experience similar disappointments.

These tips were adapted from "Oops! Time for Service Recovery," a film produced by Salenger Films, Santa Monica, CA.

TDY 93/94 IN BRIEF

GAINING AND KEEPING MANAGEMENT SUPPORT FOR TRAINING

Source: "The Basics: Winning Management Support for Training," by Angus Reynolds, *Technical & Skills Training*, November-December 1992, pp. 10-11

Management support is essential if training is to be a success, this author says, and he offers some ideas on how that support can be achieved:

- Ensure that the training is aligned with management's priorities.
- Recognize and strive to attain all 3 levels of support: (1) top management commitment, (2) support from all levels of the company's management, and (3) managerial involvement.
- Involve management in the training in: (1) writing participants' selection statements, (2) attendance, (3) participation as an instructor, and (4) on-the-job reinforcement.
- Follow up when possible, with demonstrations of reduced costs, improved productivity, and increased profits.

A sidebar, listing the features of genuine managerial support and commitment, is also included. (AN9)

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SHIELDING TRAINING FROM THE BUDGET AXE

Source: "Expanding Roles May Protect Training Execs in Tough Times," *Training Directors' Forum Newsletter,* December 1992, pp. 1-3

This article begins by relating the experience of a former Southland Corporation training manager who found that his entire office was eliminated in favor of consolidating training in another location. Since no one can be immune from layoff in these times, this article focuses on what trainers can do to protect their jobs, with specific advice from several fellow trainers: (1) Roger Buzak of the Ed-Tel Corp. of Alberta, Canada, (2) Jim Hickstein of Chevron Information Technology, and (3) Charles Hester of Sola Optical USA. For example, one way to broaden the trainer's role and ensure training's value to the company is to cultivate the perception of learning as an ongoing, lifelong process. It is also valuable to form internal consulting relationships and to be careful that training is based on actual needs rather than on higher-ups' perceptions of needs. The importance of demonstrating the value of training to the organization and publicizing success stories is also discussed here, as is the idea of conducting an outside audit to help identify departmental strengths and weaknesses. Developing relationships with key players in each department, taking on organizational and employee-relations duties beyond those of training, and handling nontraining business, such as the company newsletter and the annual employee attitude survey, are other ways of making a trainer "indispensible" to the company and thus less likely to face the axe during hard financial times. (AN10)

MEASURING RETURN ON TRAINING INVESTMENT

Source: "Training Function Accountability: How to Really Measure Return on Investment," by Holly Schneider, *et al., Performance & Instruction,* March 1992, pp. 12-17

The 1990 recession has provided ample reminders of the necessity for HR departments to provide hard business evidence of training effectiveness. In this article, the authors offer a 7-step model for predicting and proving training's return on investment:

1. Select a comprehensive training needs survey.
2. Divide the survey into major activity areas or competencies and assign to each a percentage of the total value of an employee's contribution to the unit.
3. Determine the performance gap improvement potential.
4. Project return on investment by calculating the dollar value of the performance gap.
5. Determine the optimum training investment utilizing the performance gap.
6. Conduct the training.
7. Measure changes and calculate the actual value.

Each of these steps is discussed in detail, and examples of competency planning and guidance and performance gap calculation are included. Some of the benefits of this model are: (1) provision of hard data to compete for scarce resources, (2) persuasion of managers to commit to the time needed for training, and (3) justification for training upgrades. (AN11)

COST-JUSTIFYING MULTIMEDIA

Source: "Selling Multimedia: How to Cost Justify Training Programs," by Bill Ives and David Forman, *The VAR Herald,* Winter 1992, pp. 10-11

While CBT instruction lowers overall training costs, observe the authors, multimedia approaches typically require higher initial costs. Convincing top management that this is wise requires a return-on-investment (ROI) analysis. The authors present a multi-level ROI model which provides a cost-benefit analysis, a cost-effectiveness analysis, and a program evaluation once the program has been implemented. The authors then give examples of the calculations necessary, as well as presentation formats which make the ROI understandable. Illustrations include a cash flow analysis at a financial services company, detailed depreciated costs, cash inflow (benefits) detail, and overall ROI. (AN12)

DETERMINING THE DOLLAR VALUE OF TRAINING

Source: "Costing Out the Value of Training," by Paul E. Brauchle, *Technical & Skills Training,* May-June 1992, pp. 35-40

When translated into dollars, says the author, the value of training is a powerful measuring scale with enormous emotional impact on managers. He describes a cost/benefit analysis he calls "DIF Analysis," which determines the value of training by examining task difficulty, importance, and frequency. He outlines the procedure's steps in 3 phases:

1. **The Job Analysis**—(1) conduct a job analysis, (2) set difficulty ratings, (3) establish task importance, (4) establish frequency/time values, (5) obtain DIF products, and (6) get DIF weightings.
2. **Determine Value of Performance**—(7) Start with weightings, (8) enter worker cost, (9) determine task value, (10) establish job performance ratings, and (11) find performance values.

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3. Determine the Benefits of Training—(12) compare performance values for each task before and after training.

This method of DIF analysis has 2 key applications, the author concludes: monitoring the results of training and planning training. The article includes sample worksheets for various aspects of the analysis, as well as bibliographical references. (AN13)

MARKETING HRD

Source: *Marketing HRD within Organizations: Enhancing the Visibility, Effectiveness, and Credibility of Programs,* by Jerry W. Gilley and Steven A. Eggland, Jossey-Bass Inc., 1992, 242 pages, $32.95

"Marketing," say the authors, "is a tool that can be used to improve the image, credibility, and acceptance of HRD, with the ultimate goal of integrating HRD into the fabric of the organization." The authors introduce the concept of marketing, the process of client satisfaction and client orientation, and then they explain *the exchange process*—offering something of value in return for something of value. Of course, the client must understand and be convinced of the value of HRD for that exchange to occur; the authors see this as part of *the adoption process.* Next, they discuss the essential components of a strategic marketing plan, which form the structure of the central chapters of the book:

- **The marketing mission statement**
- **Internal and external environmental analysis**—an examination of the barriers and opportunities, the strengths and weaknesses, of the HRD program and its practitioners
- **Marketing goals and objectives**—defining the outcomes the marketing plan is designed to produce
- **Target audience and market research**—identifying the primary audience for HRD programs and how this can best be determined
- **Marketing mix**—deciding what methods to use to enhance the image and credibility of HRD
- **Marketing strategies**—developing a plan of action for implementing the marketing plan

The final chapter reviews the principles developed in the book, and suggests a 16-step action plan designed to guide the HRD leader step-by-step into marketing HRD within the organization. (AN14)

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D. TRAINING BUDGETS

Excerpt from: *TRAINING MAGAZINE'S* 1992 INDUSTRY REPORT

TDY Editor's Note: Lakewood Research (a division of Lakewood Publications, publishers of *TRAINING Magazine*) conducts a survey of training practices every year. Highlights of this survey, which samples both readers of *TRAINING* and Dun & Bradstreet's *Business Directory* data base, are published annually as *TRAINING Magazine's Industry Report*. The charts below present some of the data on training budgets that was collected in the latest survey.

1992 TRAINING BUDGETS
Projected Outside Expenditures (in millions)

Organization Size (by # of Employees)	Seminars/ Conferences	Hardware	Outside Services	Custom Materials	Off-the-Shelf Materials	Total Outside Expenditures
100-499	$ 782	$ 546	$ 440	$ 287	$ 511	$ 2,565
500-999	225	130	125	90	100	670
1,000-2,499	388	141	153	106	136	924
2,500-9,999	341	352	179	246	274	1,393
10,000 or more	892	922	469	520	436	3,238
Total	2,628	2,091	1,365	1,248	1,458	8,790

Averages per Organization by Size (in dollars)

Organization Size (by # of Employees)	Seminars/ Conferences	Hardware	Outside Services	Custom Materials	Off-the-Shelf Materials	Total Outside Expenditures
100-499	$ 7,448	$ 5,200	$ 4,187	$ 2,729	$ 4,871	$ 24,436
500-999	17,653	10,193	9,794	7,070	7,896	52,606
1,000-2,499	43,124	15,636	17,001	11,735	15,089	102,586
2,500-9,999	75,387	77,855	39,654	54,295	60,630	307,822
10,000 or more	606,474	627,541	318,797	353,552	296,660	2,203,024

Averages per Organization by Industry (in dollars)

Industry	Seminars/ Conferences	Hardware	Outside Services	Custom Materials	Off-the-Shelf Materials	Total Outside Expenditures
Manufacturing	$ 23,686	$ 22,196	$ 13,619	$ 12,820	$ 17,492	$ 89,813
Trans./Commun./Utilities	24,350	16,143	12,827	12,582	17,822	83,724
Wholesale/Retail Trade	18,292	10,683	9,682	10,208	6,059	54,925
Finance/Insurance/Banking	16,755	9,815	8,006	6,848	14,136	55,560
Business Services	16,693	19,029	7,916	9,298	8,204	61,139
Health Services	14,602	10,088	6,548	4,795	7,246	43,278
Educational Services	14,228	15,280	9,846	4,704	11,886	55,944
Public Administration	20,082	25,418	6,051	6,747	8,839	67,137

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1992 TRAINING BUDGETS
Projected Totals (in millions)

Organization Size (Number of Employees)	Outside Expenditures	Facilities/ Overhead	Trainer Salaries	Total Budget
100-499	$ 2,565	$ 1,600	$ 9,058	$ 13,223
500-999	670	158	2,109	2,937
1,000-2,499	924	212	1,902	3,038
2,500-9,999	1,393	674	3,882	5,949
10,000 or more	3,238	1,474	15,172	19,884
Total	8,790	4,118	32,123	45,031

Averages per Organization by Size (in dollars)

Organization Size (Number of Employees)	Outside Expenditures	Facilities/ Overhead	Trainer Salaries	Total Budget
100-499	$ 24,436	$ 15,238	$ 86,277	$ 125,951
500-999	52,606	12,405	165,740	230,751
1,000-2,499	102,586	23,566	211,174	337,326
2,500-9,999	307,822	148,973	857,719	1,314,513
10,000 or more	2,203,024	1,002,609	10,321,039	13,526,673

Averages per Organization by Industry (in dollars)

Industry	Outside Expenditures	Facilities/ Overhead	Trainer Salaries	Total Budget
Manufacturing	$ 89,813	$ 85,365	$ 221,398	$ 396,576
Transportation/Communications/Utilities	83,724	28,915	877,229	989,867
Wholesale/Retail Trade	54,925	14,622	137,573	207,119
Finance/Insurance/Banking	55,560	19,850	107,181	182,590
Business Services	61,139	20,916	278,426	360,481
Health Services	43,278	13,433	210,544	267,255
Educational Services	55,944	7,631	104,995	168,570
Public Administration	67,137	7,039	131,588	205,764

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PREDICTING THE COSTS OF TRAINING

by James Hassett

Ask any experienced training developer what it will cost to produce a one-day classroom session, a 30-minute video, or an hour of CBT, and the answer will almost always be the same: "It depends."

After all, how long does it take to write one page? A note to a loved one may take a minute, but a one-page synopsis of the causes of the Peloponnesian Wars could take days, weeks, or years— particularly if it must be written in French and approved by two subject-matter experts who can't even agree on the best way to spell Peloponnesian.

Estimating the range of possible costs for a training program can be difficult. Take for instance the cost of producing a video production. I videotaped two hours of my daughter's seventh birthday party for $60, including the camera rental and tape. The cost came to about $.50 per minute. At the other extreme, publicists say that the film Terminator 2 cost about $100 million to make (including Arnold Schwarzenegger's cut) or about $1 million per minute.

With those estimates to define the extremes, the cost to develop a 30-minute training video can fall between $15 and $30 million. While this range could be accurate, it is not the kind of estimate likely to endear a training director to upper management. Even if the answer "it depends" is valid and honest, it won't help a decision maker to determine whether customized training should be developed.

Surveying Costs

To get a more definitive response, some experts surveyed custom-training developers. In the June 1987 issue of *TRAINING* Chris Lee and Ron Zemke reported the results of several studies. They reviewed published studies from the Office of Personnel Management, the Department of Defense, and AT&T. They interviewed training managers from the Army, the Navy, Arthur Andersen, New England Telephone, and smaller developers. Although each source offered different numbers, there were some general trends. Instructor-led courses took less time to prepare than either self-study materials or computer-based instruction. Estimates for the time required to develop an hour of classroom training ranged from 28 to 315 hours. For self-study materials, the lowest estimate was 80 hours of development time per hour, the highest was 345 hours per hour.

It generally takes longer to put self-paced material on a computer screen than on a piece of paper. For computer-based training, the experts gave a maximum estimate of 500 hours for developing one hour of instruction. But the minimum estimate for CBT (50 developer hours per hour) was lower than the minimum estimate for self-study materials (80 hours per hour).

How can that be when the maximum number of hours is higher for CBT than self-study materials? There are two possible explanations. One is that Lee and Zemke had more experts estimate CBT than self-study so the numbers don't reflect the true picture. The other explanation is that the lone expert who offered an estimate of 50 hours per hour of CBT was a born optimist.

A more systematic study of CBT development time, published several years later, seems to support the "born optimist" theory. In this study, sponsored by the Army Research Institute, Joni Jay and her colleagues surveyed more than 200 experienced CBT developers.

According to Jay's survey, the average time for creating an hour of a typical CBT project ranges from 140 to 316 developer hours. But for projects that aren't typical, 61 per cent of the respondents reported that CBT sometimes takes more than 400 developer hours per hour, and 27 percent said it sometimes takes more than 1,000 developer hours per hour.

The award for getting CBT out the door would have to go to the person in Jay's study who claimed to have developed one hour of CBT in one hour. We suspect that either this was a really great hour, or that the developer has since changed careers. At the other extreme, one developer reported a case in which it took 4,000 hours to develop a single hour of CBT.

Completing the Formula

For budgeting a training project, selecting one of these estimates of development hours per hour is just the first step in computing the equation: Cost equals the number of developer hours per hour of training multiplied by the development cost per hour multiplied by the number of hours of training.

Like many mathematical formulas used in business, this one can convey a false sense of precision. Obviously, the cost of a developer hour is not easy to calculate.

However salaries are computed, the cost formula begins to make self-paced and computer-based materials

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look more economical, because they typically reduce training time by about 30 percent.

To put it another way, you can typically cover one student hour of classroom content in just over 40 minutes of self-paced training. (Most of the savings with self-study and CBT come after the development phase, when you compute how much you save by not having to pay travel, lodging, and other costs for sending instructors and employees to a centralized training location.)

In a 1981 article in the *Defense Management Journal*, Jesse Orlansky and Joseph String estimated a 30 percent reduction in training time for self-paced training as compared to classroom training. This has since become a figure that everyone quotes, though few can remember where it came from. (Few people remember that Orlansky and String also reported a wide range of reductions—sometimes much more than 30 percent, and sometimes much less.)

Even the use of the hour basic unit of measurement is a point of contention. In Jay's survey, very few CBT experts thought it was a good unit of measurement for training programs. But don't expect it to change— it is the real-world standard that people have learned to live with. The hour unit is handy because students can be scheduled by the hour and because training courses are almost inevitably sold by the hour.

Some Rules of Thumb

The research is interesting, but it doesn't offer much help when it comes time to give a true estimate of what it will cost to develop training. In every training project, the moment comes when you are forced to say "That will be $12,600," instead of, "It depends." And to come up with this answer, every developer needs some rules of thumb for predicting costs.

Table 1 offers some rules of thumb for estimating the time and cost of developing training materials. When using this table, remember that some training projects will inevitably fall outside of these ranges for a variety of legitimate reasons. But the ranges provide a good starting point for estimating development costs.

Table 1 provides blank spaces for filling in your estimated cost per developer hour; it will vary depending on the project, the pay scale in your region and industry, and your accounting systems. If you do not have a particular figure in mind, it is reasonable to start with $50 as a fully loaded cost per developer hour.

That may sound high if you are used to thinking in terms of hourly salary rates. According to a recent survey (published in the January 1992 issue of *CBT Directions*), the average salary for a senior CBT developer is $38,100, or about $20 per hour (assuming a 9-to-5 work day, with unpaid lunch). But someone must also pay for holidays, vacation, health insurance, and benefits.

If you include those factors, plus the management time required to hire and supervise employees, plus the hours charged to "overhead" between projects, the real cost of each productive developer hour is likely to be two or three times the pay rate, for a total, loaded cost of about $50 per hour.

In Table 1, the video production estimate is not based on the number of developer hours. With video, the labor of the producer and writer are usually far less relevant than such factors as hired actors' fees and costs for travel to shooting locations.

To use Table 1, you must be able to decide with some accuracy just where each project falls on the continuum from simple to complex. Several researchers have attempted to develop systematic models that could predict cost based on the values of other variables. For example, Lee and Zemke mention a cost-estimate model developed for the Department of Defense. The model contains 17 instructional steps, each rated at 0 to 15 "work-effort points."

Similarly, in a chapter of *Making CBT Happen*, Gloria Gery lists 37 factors that contribute to CBT development time. By the way, her subtitle for the chapter is "How long does it take to develop an hour of CBT? How many angels can dance on the head of a pin?"

Estimating works best when it is based on an overall rating of a few broad factors, rather than on detailed ratings of many small factors. The most important of the broad factors that determine whether a project is simple and inexpensive, or complex and expensive are the following: content, experience, and design. These factors are described in Table 2.

If the content is relatively straightforward, stable, and noncontroversial, a training project will fall near the "simple" end of the continuum. Two problems that are likely to unexpectedly increase costs and delay the completion of a project:

- Content changes, such as changes in software design after training is developed
- Disagreement among subject matter experts whose differences of opinion can take time to settle and can increase costs as changes are made to accommodate them.

Experience, broadly defined, is another key factor. This includes experience in managing complex training development projects. It also includes experience in developing training, experience with the subject matter, and experience with the people on the project team. Longer courses tend to become less expensive as they progress because of the experience gained in the early stages.

Design is more likely to be an issue with CBT and video than with self-study materials or instructor-led courses. CBT and video permit and even invite developers to imagine sophisticated approaches such as elaborate video graphics or complicated branching instructions that allow learners to choose different paths. These can be extremely powerful learning tools—and extremely expensive ones.

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TABLE 1
Rules of Thumb for Estimating the Time and Cost of Developing Training Materials

	COST RANGE	
	Simple projects	Complex projects
Instructor-led courses		
Developer hours per training hour	40	100
Total cost, at $___ per developer hour	$____	$____
Self-study courses		
Developer hours per training hour	80	200
Total cost, at $___ per developer hour	$____	$____
Computer-based training		
Developer hours per training hour	100	400
Total cost, at $___ per developer hour	$____	$____
Video		
Cost per finished minute	$2,000	$10,000

TABLE 2
Predicting the Complexity of Training Projects

	Simple projects	Complex projects
Content	Straightforward, stable, and not controversial.	Intellectually challenging or not well specified or understood.
Experience	Both developers and subject matter experts have developed training previously.	Developers or subject matter experts are not familiar with the course development process.
Design	No complicated design features or special requirements.	Elaborate or sophisticated requirements.

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In this case, experience can be a negative factor. Some experienced designers think they know what's best and may be less concerned with client budgets than they should be.

This suggests a fourth factor that can play a major role in determining cost: incentives. In her survey of CBT developers, Jay reports that requests for additional funds appear to be common. If both clients and developers expect the final cost to be higher than the initial estimate, it probably will be. On the other hand, nothing will bring a sophisticated designer back to earth faster than requiring him or her to pay out-of-pocket for any extravagance.

A lack of incentives to control costs can cause problems for developers as well—especially after a developer sets a fixed price for a project. A simple solution from the developer's point of view is to charge by the hour. Customers are likely to solve problems and resolve ambiguities faster when they are paying for each delay.

Figuring Other Costs

Development costs are typically only a small fraction of the total cost of custom training programs. According to Stephen Cohen ("The Challenge of Training in the Nineties," *Training & Development*, July 1991) two out of every three training dollars are spent on travel and lodging. That does not include the cost of trainees' salaries, since many organizations consider salaries a "sunk cost" that will be spent whether or not they offer training.

Even though developing materials is not the largest factor in cost, it is typically the most visible factor, the first decision point when you plan a new training program. As a result, rules of thumb serve an important role when an organization first begins to consider the possibility of developing a custom training program to meet a particular need.

For those of us who make our living developing custom training programs for a fixed price, good estimates can be the difference between a company that survives in the training business and one that does not.

Of course, in actual practice, cost is only one factor in deciding on a training program or choosing a form of delivery. An instructor-led course may be the only practical approach for some content, or may have important networking and team building benefits that justify its higher cost of delivery.

Cost analysis is further complicated if you consider the economic benefits of a training program. If a sales training program requires a $200,000 investment and produces $2 million in new profits, what does it really cost?

The next time you go to a budget meeting to consider new training programs, feel free to take copies of Tables 1 and 2. But don't forget that, until you have learned the project details, the best answer is still "it depends."

TDY 93/94 IN BRIEF

TRAINING BUDGETS IN 1992

Source: "The Budget Blahs," by Chris Lee, *TRAINING Magazine*, October 1992, pp. 31-38

While the old axiom "in tough times, training is the first thing cut" is still widely believed, *TRAINING Magazine's* readers say that this has not been true during the current recession. This article presents several charts and tables that indicate a grand total of $45 billion being spent on training and development by companies with more than 100 employees during the 1992 fiscal year. It is short of 1990's total, but still represents a 4% increase over last year's expenditures. The author presents a 5-year comparison of training budgets for: (1) seminars/conferences, (2) hardware, (3) outside services, (4) custom materials, (5) off-the-shelf materials, (6) total outside expenditures, and (7) facilities overhead, based on organizational size and industry involved. He also gives information on the breakdown of outside expenditures for technical vs. non-technical training. Yet another table lists budget predictions for 1993 in: (1) manufacturing, (2) transportation/communication/utilities, (3) wholesale/retail trade, (4) finance/insurance/banking, (5) business services, (6) health services, (7) educational services, and (8) public administration. (AN15)

MEASURING TRAINING COSTS

Source: "The Problem of Split Budget Responsibility," by Verl E. Dennis, *CBT Directions*, January-February 1992, pp. 6-9

Controlling costs and saving time are keys to profitability, says this author in an article devoted to the concept of life cycle costing (LCC). A cost analysis method devised by the Department of Defense in the 1970s, LCC would estimate the cost of a training program over its entire life cycle—from planning, designing, and developing through delivery—including one-time, front-end costs, such as participant time and travel expenses. The author explains how the electronic spreadsheet can be used to clarify LCC, and then he explains how he has dealt with the problem of split budget responsibility: when one department economizes at the expense of another. Life cycle costing can help resolve some of the tension felt when split budget responsibility occurs by making training sponsors responsible for the life cycle costs of the training, not just the front-end costs. LCC helps managers and executives realize just how expensive a total training package can be, concludes the author. (AN16)

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TRAINING AS A CAPITAL EXPENSE

Source: "A Capital Idea," by Beverly Geber, *TRAINING Magazine*, January 1992, pp. 31-34

The U.S. Labor Department will soon convene a task force to examine whether accounting rules can be changed to allow companies to treat training expenditures as investments, rather than expenses, reports the author. Human asset accounting has been discussed for years, though it does not conform to accounting's *Bible*—the "Generally Accepted Accounting Principles." But for companies like advertising firms, whose true value lies in the quality of their creative employees, the idea has merit. Merck and Arthur Andersen, for example, both have accounting systems which take employee value into account. Yet some trainers are skeptical that a change in the tax rules will encourage more training; if companies considered training to be good for them, they would be doing more of it already. The author quotes Jack Bowsher as suggesting that course development costs should be spread over the life expectancy of the course, just as equipment and buildings are amortized, though he believes delivery costs and trainee salaries should be treated as a current expense. It is problematical whether the Labor Department task force will agree on a method for capitalizing training costs, but the author suggests it may be an idea whose time is coming. (AN17)

E. TRAINING FACILITIES

MEETING EVERYONE'S NEEDS

by Clyde Linsley

Steve Lusk of Annandale, VA, knows from firsthand experience that when it comes to accessibility for disabled people, appearance is not always reality. On one recent trip, Lusk, who is paraplegic (paralyzed in the lower half of his body; a quadriplegic can use neither his arms nor his legs), reached for the wall-mounted grab rail in a hotel bathroom only to have it come off in his hand. The bar had been attached to the wall with lightweight bolts and wouldn't support his weight.

Accessibility in public accommodations is improving all the time, but it is a long way from perfection. Even when efforts are made to make facilities more user-friendly to a broader spectrum of users, the efforts often go only part way.

"In hotel bathrooms, the wash basins may be low enough for someone in a wheelchair, but the designers will forget to leave space underneath for a person to put his knees," Lusk says. Or a facility may set aside a couple of single-occupancy rooms for people with disabilities, forgetting that disabled people also have families and friends. The door to a restroom stall may open in instead of out, making wheelchair access difficult, sometimes impossible. Entering the restroom may require a sharp turn that can't be accomplished in a wheelchair, or a waste receptacle may be placed in such a way that the necessary turn can't be completed. The all-time champion on the frustrating accommodations list: Rooms whose exterior doorways are wide enough for a wheelchair, but whose interior doorways, notably the one to the bathroom, are not wide enough (the standard minimum rule of thumb for wheelchair access is 32 inches; common doorways often run 28 or 30 inches).

All this is changing. It has to. The new Americans with Disabilities Act (ADA), enacted and signed into law in 1990, and in force as of Jan. 26 of this year, has expanded the rights—and the clout—of people with a broad range of disabilities. ADA requires businesses that deal with the public to take steps to make their facilities accessible to disabled customers and to hire qualified disabled applicants. It also requires any business that employs 25 or more people (decreasing to 15 by 1994) "to provide qualified persons with disabilities with reasonable accommodations—if needed—to perform the essential functions of the job that they are seeking or currently hold," according to *Planning Reasonable Accommodations*, a booklet published by Mainstream Inc. in Washington, a nonprofit organization with a national focus on moving persons with disabilities into the workplace. The only exception to this rule is if doing so would impose an "undue hardship" on the employer.

What does this mean for trainers and meeting planners? It means that when you plan a function off-site, you are responsible for assuring that anyone wishing to attend and fully participate as part of their job can do so. A lot of the specifics are still being worked out (more about that to follow), but the intent is clear: You can't assume that the meeting site you choose meets the conditions of the law. You have to be sure—and there are legal jeopardies if you're wrong. ADA, for example, specifies that a trade association becomes a public accommodation for purposes of the law when it leases conference space. As such, it, as well as the meeting facility, becomes responsible for compliance under ADA.

Civil Rights For The Disabled

President Bush compared it to the Declaration of Independence. Others have likened it to the Civil Rights Act of 1964. Even allowing for a little political hyperbole, ADA will greatly change the rules of the meeting-planning game.

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Most hotels and conference centers, as well as many businesses, have made a number of accessibility modifications in recent years: Wheelchair ramps, special parking spaces for handicapped drivers and automatic doors are now commonplace, as are bathroom handrails, lower elevator call buttons and public telephones that have an audio boost feature for the hearing impaired. ADA, however, widens the range of measures required to accommodate disabilities such as blindness, hearing impairment, arthritis, heart conditions, emphysema—even AIDS.

Thus, meeting facilities that provide television receivers in five or more guest rooms now must also offer a means of decoding closed-caption programming. Guest room telephones must be located near electrical outlets to permit those with hearing impairments to use TDD (telecommunication devices for the deaf) equipment. Knobs on appliances in guest rooms must be operable by someone with arthritis. Checkout counters generally must be low enough to accommodate short people or guests in wheelchairs. Room numbers and elevator controls must be readable in low light and raised so blind guests can read them by touch.

Kitchen Clout

Will your meeting include restaurant meals? The Americans with Disabilities Act extends the rights of people with disabilities to a meeting facility's food service establishments just as it does to guest accommodations and meeting rooms on the site.

Like other places of public accommodation, restaurants must be accessible to disabled people. This means that aisles must, where feasible, be 36 inches wide and self-service areas (such as salad bars) must generally be no higher than 54 inches. The same is true for vending machines. Similarly, checkout areas must be built so that a short person or someone in a wheelchair can reach them.

But the law also gives greater clout to those whose health or religious principles require special diets. Although restaurant kitchens, like other accommodations, are not required to alter their inventories, they are required to honor special orders on request if they can do so through their regular suppliers and if they routinely place special orders for other reasons.

Again, there's ambiguity here—in this case, the key term is "special order." If members of your group require vegetarian or low-cholesterol meals, the restaurant must accommodate that special request if it normally accommodates other special requests. It isn't, however, required to rebuild its kitchen in order to accommodate your request, and it isn't required to do for you something it won't do for anyone else. A fast-food restaurant, for example, isn't required to whip up vegetarian chili just for you if it serves only hamburgers to everyone else.

New meeting facilities are being constructed to comply with the requirements of the law—after 1993, all new lodging facilities will have to be built to compliance. Older facilities, on the other hand, are to be retrofitted where that is "readily achievable." Where retrofitting isn't feasible, they must make other nonstructural accommodations to the act.

The catch is in phrases such as "readily achievable," "reasonable accommodation" and "undue hardship." Based on the precedent established by the Rehabilitation Act of 1973, ADA provides only general examples, not hard and fast rules, for compliance. It leaves the specifics open to literally case-by-case determinations. That provides considerable leeway for operators of older meeting facilities to adopt alternative measures in accommodating disabled guests:

- If lowering the checkout counter isn't "readily achievable," a clipboard could be made available for the use of guests in wheelchairs.
- If lowering shelves in the gift shop isn't "readily achievable," a clerk could accommodate a disabled customer by getting merchandise off the shelf.
- If altering all of its guest rooms isn't "readily achievable," a facility could comply by altering some lesser number of rooms and putting disabled guests in those rooms.

Courting Trouble

This may get the meeting facility off the ADA hook. But it may not do the same for trainers and meeting planners arranging off-site functions in those facilities. If you will have hearing impaired participants at your meeting, for example, you are responsible for ensuring that the necessary auxiliary aids and services are available. If a hotel doesn't supply signing interpreters, for example, you'll have to do it on your own. If its limited number of rooms equipped with TDD phones are booked, you are responsible for arranging additional equipment.

"It's going to be more and more incumbent on meeting planners to make sure the facilities they use are within the law," says William L. Wilkoff, a Washington interior designer and a member of the President's Commission on Employment of the Physically Disabled. Failure to make sure that your meeting place is ADA-accessible could result in a lawsuit, says Wilkoff. And since the law in question is a federal law, the suit would be brought by the U.S. Department of Justice.

Further, you could conceivably be sued even if the facility you've booked your meeting into does not run afoul of the law. That's because a meeting facility can technically be certified as complying with the Americans with Disabilities Act without being totally accessible in fact. It depends on what is or isn't "readily achievable." In a litigious society, the costs of noncompliance can mount quickly. Under ADA, lawsuits may be brought by individuals or groups. Or the Justice Department may file

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Finding Reliable Guides

If you're looking for more than informed opinions on which meeting facilities do and don't comply with ADA, you may have to look hard. Although a number of travel books contain information about accessibility, most are no longer up-to-date. They typically reflect standards that have been on the books since 1973 rather than the newer, and broader, scope of ADA. The widely-used AAA TourBooks and Mobil Travel Guides, for example, display wheelchair symbols to indicate some degree of wheelchair access, but they don't yet take into account the increased range of disabilities addressed by the new law.

"We're trying to determine what we'll look for when we go out and inspect for compliance with ADA," says Thomas R. Crosby, managing director of national travel for the American Automobile Association (AAA). "The act up to now has had little practical impact [on our TourBooks], but it has had a profound impact on future planning."

If you can't wait for national guides to begin updating their standards, look closer to the site you're investigating. A number of regional, state and city organizations are compiling their own guides, and perceptive meeting facilities will make a point of getting themselves listed. Indicative of the depth of information possible is *The Virginia Travel Guide for the Disabled, Second Edition*, published by The Opening Door, Inc. (Route 2, Box 1805, Woodford, VA 22580). It costs $5 and covers Virginia hotels, restaurants, churches, suppliers of wheelchair lifts and other adaptive devices—even the state-operated 'visitors' centers—based on detailed, first-hand inspections and evaluations by people who are themselves disabled.

If you elect to conduct your own on-site inspections, it's advisable to obtain a copy of the federal regulations. They're available from the Architectural and Transportation Barriers Compliance Board—(800) 872-2253—or from the Department of Justice's Office on the Americans with Disabilities Act—(202) 514-0301 for voice communications; (202) 514-0381 for TDD.

a lawsuit if it believes a pattern of discrimination has been found or that a particular case raises an issue of general public importance. Violators are subject to a fine of up to $50,000 on the first offense and up to $100,000 for subsequent offenses.

"The Justice Department will sue everybody, and they'll expect the parties to sort out liability," predicts Gary Marx, a Washington lawyer who follows public access issues. "I think you can expect at least one lawsuit just to put everybody on notice that the whole affair is being taken seriously."

To protect your organization, Marx suggests that you ask for a hold harmless warranty from the meeting facility that confirms the location is ADA-accessible. "Better yet," he says, "conduct your own independent site inspection, or ask local disabled advocacy groups for their opinions" (see box above).

Disability Defined

According to the Rehabilitation Act of 1973, whose definition has been copied into the Americans with Disabilities Act, a person with a disability is "a person with a physical or mental impairment that substantially limits that person in some major life activity, a person with a record of such a physical or mental impairment, or a person who is regarded as having such an impairment." The definition, incidentally, excludes individuals who use illegal drugs but *includes* those with disabilities resulting from past drug use.

Facilities Opening Up

ADA doesn't come as a complete surprise to the meetings business. One reason for the two-year delay between enactment and the beginning of its phase-in was to allow businesses to plan ahead. Many have. Consequently, when you plan a convention or training program away from your own place of business, the odds of being able to accommodate the needs of your disabled participants have been greatly increased.

Major hotel corporations and independent meeting facilities alike are responding to the new law with considerable enthusiasm, seeing it as not merely a legal mandate but a business opportunity. After all, more than 40 million Americans have one or more physical or mental disabilities, according to a report prepared in 1990 by the Democratic Study Group of the U.S. House of Representatives, and the progressive aging of the country's population makes this a growth market.

Marriott Corp., for one, has spent millions of dollars upgrading its properties to comply with the tough new requirements of ADA. Just to accommodate people with hearing impairments, for example, it has shipped special kits to all of its properties, including closed caption television decoders, flashing door knockers, strobe-equipped smoke detectors and TDD message terminals. Marriott's toll-free TDD reservation number has been in service since 1989.

But all is not roses. Not every place of public accommodation will adapt to ADA's requirements in the same way, or with the same vigor. Nor will every meeting site be required to make architectural changes in order to comply with the act.

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The fact is, the Americans with Disabilities Act will not alleviate your meeting-planning problems. It may, in fact, exacerbate them. But, in the long run, it will put the muscle of federal law behind the commendable objective of fully developing all of a company's human resources.

TDY 93/94 CASE STUDY: AN ON-CAMPUS TRAINING CENTER

Source: "The Campus Connection," by Kate Rounds, *Meetings & Conventions*, July 1992, pp. 97-108

Schools are meeting the business world half-way, says the author, with on-campus conference centers that offer the professional expertise, as well as the creature comforts that executives require and expect. This article relates the experiences of Harnischfeger Inc., a Milwaukee-based manufacturing company with the R. David Thomas Conference Center that is attached to Duke University. The author says that the Center is every bit as up-scale and mature a setting as one could want. It is also reasonably priced and offers tailored as well as packaged training programs. Some criticisms of the on-campus conference center are mentioned, however, such as the fact that business needs can sometimes play second fiddle to the needs of the student body. (AN18)

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TRAINING FACILITY DESIGN

Source: "Top-Ten Training Facilities," by Eric K. Gill, *Presentation Products Magazine*, May 1992, pp. 16-37

A state-of-the-art training center is more than a lavish business expense, insists the author. It is part of the quality process. First, he discusses the key factors which distinguish excellence in a training facility: ease of use, reliability and manufacturer support, budget considerations, flexibility and upgradability, and ergonomic design. The rest of the article consists of one-page profiles of 10 different new training facilities. Each description contains 2 to 4 color photos, cost, contractors, and a product inventory. These top training centers include: (1) Southern California Edison, Irwindale, CA; (2) Educational Testing Services, Princeton, NJ; (3) Personnel Pool of America, Ft. Lauderdale, FL; (4) Missouri Botanical Garden, St. Louis, MO; (5) Barnett Banks Inc., Jacksonville, FL; (6) Protection Mutual Insurance Co., Park Ridge, IL; (7) Burger King Corp., Miami, FL; (8) Vinson & Elkins L.L.P., Houston, TX; (9) Apple Computer Inc., Rosemont, IL; and (10) J. Paul Getty Museum, Santa Monica, CA. "System integrators," the author explains, are consultants who help coordinate the various training systems in a training center. A sidebar lists 6 of these professional systems integrators. (AN19)

PLANNING OFF-SITE TRAINING MEETINGS

Source: "Small Timers and Day Trippers," by Bruce Serlen, *TRAINING Magazine*, July 1992, pp. 17-26 (special supplement on off-site training meetings)

It is no easier to run a small meeting than a big one, and in fact, it can often be more difficult, says the author. Nonetheless, smaller meetings and "day trippings"—one-day meetings—are gaining in popularity, particularly because of their economy. The author offers some suggestions for success with a small or short meeting:

- Centralize meeting planning functions within your company for more leverage in your planning.
- Be flexible—often a week or two can mean the difference between high-season rates and more reasonable off-season ones.
- Negotiate extras—even in a sour economy, there are often many extras that can be provided on a complimentary basis.
- Get everything in writing, no matter how simple the need may be.
- Find out who else will be using the facilities at the same time.
- Beware of buffets—they are very uneconomical for small groups.
- Work closely with conference service managers, ask for suggestions, and defer to their expertise. (AN20)

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F. STAFFING THE TRAINING FUNCTION

HOW DO I FIND A TRAINING STAR?

by Carrie Straub

As a training manager, you regularly make critical :isions about selecting, hiring, and developing your ff. The trainers you select will affect the image of the)artment, bind together or destroy your team, and ect the success of many employees. Staff development :isions are equally crucial as you determine the alloca-n of critical resources. Selecting the right trainer quires a well-designed and carefully executed process. fact, building an HRD team requires at least as much)ught as delivering training for other departments. But 1en an HRD opening occurs, many managers hire thout going through an organizational analysis pro-ss. And staff development, when it happens at all, often :uses on enhancing trainers' technical skills rather than veloping trainers to operate effectively within the ganization. To build your HRD group's credibility, u need to focus on the following areas:

- Designing a department that fits your organization
- Determining the skills you want in your staff
- Being honest with yourself about your style of management and your expectations
- Using recruiting tactics to find and attract the right candidates
- Developing a screening process that will assess both the technical qualifications of candidates and their culture match with the organization
- Calculating the trade-offs in whom you hire and what you can develop in them.

In addition, you have to answer two critical questions: /hat exactly is your company's culture?" and "What : the success factors for the position?"

eventing Culture Shock

The first step in determining what your corporate lture imposes on your department is to review the ganization's visible and invisible rules. For instance, it y explicitly require employees to work 40 hours a ek but actually expect 12-hour days. It may have a mpany cook-out each summer but neglect to invite)uses and children.

You can find clues to these rules in the organization's stated goals, mission statements, and policies, and in the way in which people interpret the documents. You may find hints to management's beliefs in the rewards it bestows and the punishments it metes out. You probably have a good idea of the company culture, but you should review the situation to be sure you're dealing with today's reality. Has a new CEO instilled a new set of rules? Have economic necessities changed a spread-the-wealth philosophy into a penny-pinching one? For more insights, especially into the kind of person you will need to hire, identify the company's star performers and look at the attributes people cite when describing them. For example:

- "Gerry has a mind like a steel trap, and is able to analyze and focus on what needs to be cut from the budget."
- "Gerry has a creative mind, and is able to see all the options and expand our vision."

Then consider what attributes your new trainer will need in order to interact effectively with Gerry.

While you review what the organization has articulated about its beliefs and its way of doing business, be sure to think about goals that are not explicit but still carry weight. These hidden goals may be the most important things to consider to ensure that your HRD team members can operate effectively. If the unstated goal of your department is to produce corporate change, for example, you may have to hire trainers who don't fit the organization now but who can understand today's reality and relate it to the vision for tomorrow.

Next, analyze how the rules you've identified affect your group's day-to-day operations. Examine the company's work. If your staff is supposed to train employees who are paid on commission, will the trainees view business-day training time as money taken from their pockets? In such situations, your staff must be able to state training objectives in terms of benefits and payoffs. They might have to be willing to deliver classes in short bursts or at strange hours.

They also may need to have a broad, flexible definition of training and development, not one based solely on

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Consider the Culture

The best hiring decisions start with a clear understanding of the company's culture. The following five steps can help you analyze your organization to ensure the best fit.

- Check out the firm's rising stars. What attributes have made some of the current employees into star performers?
- Look at hidden goals. Do you understand the organization's unwritten beliefs.
- Examine the companie's work. How do standard procedures and assumptions affect your department?
- Analyze both public image and internal reality. How are they different and why?
- Look at the organizational chart. To whom does your group report? How does that affect the work of your department?

classroom delivery. For instance, sales training at DHL Airways often includes a tour of the hub, to acquaint new reps with how the express-courier business really works. The tour takes place during the critical sort-time phase: midnight to 4 a.m. That's training that has nothing to do with the classroom.

Analyze both public image and internal reality. Check out executive biographies, resumes, speeches presented by management, and the company's advertising image and slogans. Review the unstated values that your company's press releases communicate about the senior management group.

What values does the company want to publicize? What values, by their omission, does the company consider unimportant? Does the CEO's biography list academic degrees and industry recognition but omit mention of spouse and family? Do senior managers work to promote community volunteerism?

Be realistic about whether the published image represents reality, the selling language of an ad campaign, or a corporate facade that conceals something less wonderful. Public perception does not always equal working reality.

Look at the organizational charts. If you don't understand how formal reporting relationships reflect the organization's values, find a colleague who has done organizational development and ask for insights about the effects those relationships have on your group. Then use your intuition and experience to think about your team's placement.

To whom does your group report? Some HRD groups report to a strategic planning department, some to a functional division, and some to a regional or line unit. And your group's place in the hierarchy makes a big difference in the projects and interactions your staff can expect.

The level of organizational goals your group supports is the first indication of how your unit's reporting relationship affects the kind of trainer you need. Consider your department's mandate and the definitions of training (changing specific skills used in the present job) and development (expanding knowledge, skill, and experience to prepare for future jobs). Which HRD function does your team address? Both? What does that mean for the trainer who's going to do the job?

Determining Skills

Once you have a feeling for the organizational issues, the next step is to analyze the job's success factors. Before you hire, you have to solve one of the great recruitment paradoxes: figuring out the things you won't know you need until you hire someone without them.

It can be helpful to analyze your needs in writing, using a worksheet such as the one in the figure on the next page. Start by determining the technical skills and abilities required for specific task—developing graphics, delivering programs, documenting progress, or operating a computer, for example. Note them in column A and then decide whether they are must-haves or nice-to-haves (columns B and C).

In column D, assign a weight or priority that indicates to what extent each skill will contribute to your new trainer's success. In column E, consider the amount of time he or she will use the skills or experience in question. (This can also help you determine priority.) Now, identify the people with whom the new trainer will interact when performing the part of the job in question, and indicate those relationships in column F. Write any additional comments in the final column.

Use the same process for determining necessary technical knowledge (education in instructional design, knowledge of a particular software, accounting skills), behavioral traits (professional demeanor, positive attitude, sense of humor), and factors relating to cultural dimensions. In all areas, assess your group's current weaknesses and list them as must-haves.

Your Style and Expectations

Now it's time for as much honesty and objectivity as you can muster. How does your personal style affect the work climate? Do you loathe people who are cheerful in the morning? How will you measure success in the person you hire? Do messy desks drive you wild? Do you believe that personal glory should be subordinated to team recognition? What are your approaches to problem solving and decision making?

Management inventories and assessments are common in today's workplace, and reviewing your preferences will help you identify some of the factors you must consider. But the most effective decision is likely to start with a simple, honest look at your expectations and work style. You also need to decide whether your new hire

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should be a reflection of yourself or have a personality that complements yours.

Once you review the must-haves and set priorities, you'll have a success profile. If you've done your homework correctly, that profile will make it easier to complete the next steps.

Recruiting Right

Now broadcast your need for a trainer with the skills, experience, and attributes you want. One way is to place a classified ad. You could use the dry basics: "Training and development specialist: The ideal candidate will have strong platform skills, ability to document skills attainment," and so on. Or you can be creative.

Years ago, I found an ad that started, "Gracious, charming First Sgt. wanted for duty in organized chaos thinly disguised as a progressive construction company." Such an ad may pique curiosity and challenge the prospective candidates. You may want to be creative in a different way, but remember that attracting the right crop of applicants is vital to the selection process. If you don't get the right candidates, no amount of job analysis will help.

Your assessment of the technical skills needed, and your knowledge of the organization's requirements, can help you determine where to advertise or recruit. If any industry-specific experience is necessary, you can recruit through industry-specific training organizations—the Society of Insurance Trainers and Educators, for example, or the National Society for Sales Training Executives. Ads placed indiscriminately may generate more resumes, but you are looking for quality, not quantity.

If you are working with a recruiter (internal or external), take the time to review the position's success profile with that person. Find out what the standard recruiting process is and whether you'll need to adjust in order to focus on the kinds of candidates you want as applicants.

Interview and Selection Strategies

Once you have a group of candidates, it's time to use your list of four or five critical skills and behaviors to design a selection and interviewing process that will get you the information you need in order to make a good decision. Remember, the questions and screening strategies you use must be job-related and able to pass legal scrutiny.

As part of the interview process, you should consider putting together a demonstration piece that all candidates would prepare and present.

Many companies do not ask prospective trainers to perform demonstration presentations. And many that do ask candidates to "try out" allow the candidates to choose the content. Training suppliers may require applicants to

Success factor analysis worksheet

SUCCESS FACTOR	MUST HAVE	NICE TO HAVE	WEIGHT OR PRIORITY	PERCENT OF TIME	LEVEL OF INTERACTION	COMMENTS AND NOTES
A	B	C	D	E	F	G
Technical skills and abilities 1. 2. 3. 4. 5.						
Technical knowledge 1. 2. 3. 4. 5.						
Behavioral traits and attributes 1. 2. 3. 4. 5.						
Cultural dimensions 1. 2. 3. 4. 5.						

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"Perspective Questions"

Start the job interview with broad, open questions. By probing the responses with questions on specific issues, you can get a perspective on a candidate's real beliefs. Here are some starter questions.

- Describe a difficult design problem you have had to solve.
- What kind of decisions are most difficult for you?
- What qualifications make you a successful trainer?
- What are your strengths? Your weaknesses? Why?
- What's the best idea you've had this year?
- What are some of the milestones of your career?
- Who was the best boss you've worked for? Why?
- How do you define a successful training program?

Each response (and even each part of a response) can inspire more questions—you can probably think of a whole list of who, what, when, where, how, and why questions to ask for nearly any kind of response. Gradually, your questions will become more specific, forcing the candidate to provide answers that are more concrete.

present samples of their programs, but in-house HRD groups frequently pass up the golden opportunity to see how candidates present programs chosen by the organization.

Knowing and testing your interview questions ahead of time is critical. Preparation may be the key to successful training delivery, but many training managers fail to prepare interview questions in advance and test them out. Identify your questions and the kinds of responses you will probably receive. Test both lists with members of your staff or other colleagues.

Could your interviewing skills use some polishing? Now's the time to sharpen them. Getting the correct answer isn't as important as getting one that provides you with a perspective on the candidate's ability to match your success profile. Practice probing questions and sharpen your active listening skills. (See the sidebar for some examples of useful "perspective" questions.)

Help candidates by providing support materials. If you are planning to use case studies, simulations, or presentations as part of the interview and selection process, take time to design a handout that describes what you expect of the candidate and what kind of rating system you plan to use.

After you've gathered the pertinent information and have scored your candidates' performances, it's relatively easy to arrive at an overall rating that will help you with the final decision. Obviously, some subjective factors will influence your decision, but it will be much easier now to pick a star.

HIRING TRAINERS WITH DISABILITIES

by Frank J. Navran

At 7:45 a.m. students begin to trickle into the classroom for the 8 a.m. training session. There are no surprises at first. The chairs are arranged in a large "U" around eight tables. In the front of the room stand a flip chart, an overhead projector and a TV monitor. Tent cards mark everyone's place.

Then George enters the room and works his way to the front, stopping to introduce himself to the early birds. George is their instructor. He is in a wheelchair.

The session starts promptly. George kicks it off by introducing himself: "My name is George and I'll be your instructor for the next three days. Let me tell you a little about myself and what we will be doing in this workshop."

It's a typical trainer introduction: name, rank and serial number. Then George goes a step further. "You'll have noticed that I'm in a wheelchair. I had polio as a child. I can get around with crutches, but for a long session like this I'm more comfortable in my chair. That means I need some help. I'll need someone in the front of the room to flip pages on the easel and to tape some pages to the walls on breaks. If I'm heading out of the room and you're at the door, feel free to hold it open for me; I appreciate the courtesy. Otherwise, this is business as usual."

The Americans with Disabilities Act (ADA), which takes effect this month, prohibits organizations from discriminating in the hiring and placement of qualified people with disabilities. Training departments are gearing up to teach employees with disabilities to perform a wide variety of functions. They are also revising training for interviewers and employment specialists to ensure compliance with the law.

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But what about the idea of hiring, promoting or transferring a person with a disability into a training job? Is it legitimate to disqualify a candidate based on a physical disability? It certainly can be—but that is the exception rather than the rule. In most instances the candidate with a disability can be "reasonably accommodated" without imposing an "undue hardship" on the training organization. Those are the key tests that determine whether an applicant has been illegally discriminated against, according to the ADA.

Slow down, you object. Training is a very demanding job, one with a thousand subtleties. Training is different. It may be a shame, but there are a multitude of reasons why people with many kinds of disabilities simply would be unqualified to function effectively as trainers. Well, aren't there?

George was qualified. In fact, George was one of the best trainers I ever saw. Yet when I met him in 1979 he told me how difficult it had been to convince the training managers at a dozen different companies that he could do the job. They rejected him because of his disability.

Penny Zibula is blind. She is a consultant and trainer with my own firm in Atlanta, and is a featured speaker at workshops and conferences.

Terry O'Toole is deaf and has the characteristic speech of those who can't hear themselves speak. Terry is a senior trainer and an internal consultant for Virginia Power Co.'s management and professional development group in Richmond, VA.

Denise Pursel was born without a left hand. She uses a hook to hold her remote control as she changes slides, representing Spiegel Inc. in Hinsdale, IL (as in the Spiegel catalog), at conferences all over the country.

The ADA requires organizations to make "reasonable accommodations" to allow people with disabilities to be successful. For George, reasonable accommodation meant that he got a student to help him flip pages. Penny uses a 79¢ piece of angle iron taped to the overhead projector to help her align her slides. Terry reminds his students to please face him when speaking so he can read their lips. Denise requires no special accommodation at all.

George, Penny, Terry and Denise are not superheroes. They're just good trainers—bright, articulate, motivated and good with people. But life can't be that simple or already there would be lots of trainers with canes, wheelchairs, guide dogs, hearing aids and artificial limbs. Why don't more organizations use trainers with disabilities? Perhaps the results of a recent Harris poll will shed some light:

- 74 percent of those polled pity disabled people.
- 58 percent are embarrassed in the presence of a person with a disability.
- 47 percent experience fear that they too might become disabled.

Never mind that training managers themselves may share those feelings—what about the students? Pity, embarrassment and fear? In a learning environment? Trainers are routinely taught that if they wish to be good public speakers or effective classroom instructors, they must not so much as jingle the keys in their pockets because any unusual mannerism may be distracting to the learners. Yet now we're talking about an instructor with a dog? A presenter with a hook?

Let's look at some concerns a training manager might have, and see how they hold up under the ADA's requirement that qualified people with disabilties be given a fair chance.

Worries

A decade ago I was a training manager with Southern Bell. Part of my job was to select and train trainers for the company's management training group in Southeast Florida. Management training was an attractive job at Southern Bell; rarely did a week go by without a student in one of the management classes asking me how he or she might get a job as a trainer. Unsolicited letters and resumes arrived with equal regularity. As I considered the dozens of applications, I screened them against what I believe are typical criteria. My questions were very subjective. They dealt with communication skills (especially listening), the ability to think on one's feet, the ease with which one establishes rapport and, most subjective of all, "Would I want this person representing my organization?" One student who approached me about a training position was Jim. He had all the qualities I looked for in a trainer. He was successful in his current job, supervising the local test center. He worked well with people, he was articulate, he listened well and he had a quick mind. But Jim used a wheelchair and had limited use of his right arm. I thought this might be too great a limitation, so I expanded my hiring criteria:

- Would Jim be credible with the students? Could he earn their respect rather than their sympathy?
- Would his disability serve as a distraction or make students uncomfortable? How would people react to his immobility and his awkward hand gestures?
- Could he operate the aging audiovisual equipment used in our classroom courses? Most people needed two hands to thread the 16mm projector. Jim only had the use of one.
- Would he be less reliable, less dependable, less available? Would his physical disabilities translate into a lot of lost workdays?

My list of criteria expanded further in 1987 when I met Terry O'Toole. He is deaf and relies on lip reading to "hear." I always trim my moustache when I am visiting O'Toole, just to make life easier for him. But the prospect of hiring him as a trainer raised a question:

- Could O'Toole facilitate a group effectively if he couldn't hear everything being said? In 1990 I met and soon hired Penny Zibula. Her blindness

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raised another concern. Zibula couldn't see a student's raised hand or puzzled expression. She couldn't see or interpret people's body language.

- Was the ability to see nonverbal behavior a prerequisite for a trainer?

Finally, in light of the ADA's requirements, I added three more concerns to my list.

- Can the trainer perform or model the task being taught?
- Can I fully utilize this trainer in all the programs we present (if that is the norm)?
- How expensive is it to accommodate the trainer's disability?

Responses

Those are all legitimate concerns. Let's look at them one at a time.

Will a disabled trainer be credible?

Would you take golf lessons from a pro in a wheelchair? Only if he could improve your swing and lower your score. Could a blind golf pro improve your game? Probably not. Naturally, there are limitations on the trainer who has a physical disability. The issue for most learners is whether or not the trainer is helping them achieve their learning objective.

Credibility stems from the trainer's ability to facilitate learning. Everything else is secondary. It doesn't take long for a trainer to gain a reputation within an organization, good or bad. Disabled trainers are no different. All trainers have a mix of abilities and limitations. For some the most obvious limitation is a physical disability. For others it may be a personality trait or a gap in their subject-matter expertise. Ultimately, credibility is something a person earns. There is no evidence to suggest that trainers with disabilities are any less credible than their able-bodied counterparts.

Sometimes concern for the trainer's credibility is expressed differently:

Won't an instructor's disability be a distraction for the learners?

Most people with disabilities learn how to defuse other people's distraction through candor and their own comfort with their disability. If the trainer is self-confident and shares enough information about her disability so students know what is considered appropriate behavior, the problem usually evaporates. My experience with George suggests that this takes two or three minutes of class time.

If the disability is particularly unusual or profound, it may take longer to overcome students' curiosity and distraction. But it can be done. And the ADA says that such distraction is insufficient cause to deny someone a job opportunity. Citing the example of a person with a "severe disfigurement," ADA specifically states that fear of a "negative reaction by others" (customers, employees, etc.) does not justify disqualifying a job candidate.

Can the candidate use available training equipment?

Who would have thought that a blind trainer could use an overhead projector? Penny Zibula does so regularly. Her slides are mounted in the old-fashioned card board frames. Each is labeled, in Braille, with the slide number and title in one corner. She uses a simple piece of angle iron taped to one corner of the projector's platform to help her align the slides. A student helps her with the initial alignment and focusing. The noise and heat from the projector tell her that it's working and help her to stay clear of the projected image on the screen.

There are some limitations. A blind trainer cannot read messages on a computer screen. Her students can, though, and in nearly every classroom application a helpful student is the only accommodation Zibula requires. (In this, she is not unlike a "technologically disadvantaged" trainer I worked with years ago who could not thread a movie projector. There was always a willing student there to help.)

In some cases, if a trainer cannot use a certain technology, an alternative technology is readily available. For example, a person in a wheelchair may find it easier to write on a blank Vu Graph than a flip chart. Videotape requires fewer small hand movements than16mm film. An amputee may prefer a wireless lavaliere mike to one that is handheld.

The ADA's question is: Is the use of a particular technology essential? If you are teaching driver safety, a road test may be essential. No one is suggesting that a blind trainer would be appropriate. Yet a trainer who can readily transfer from a wheelchair to the passenger seat of the company car might be well-suited to the job.

Will the disability make the trainer unreliable or unavailable?

Bob Brabham is executive director of the National Association of Rehabilitation Facilities in Reston, VA, a group concerned with placing people with recently acquired disabilities back into the work force. According to Brabham's data, "People with disabilities are better than average in terms of time lost from the job." A number of studies have shown that employees with disabilities have better records of attendance, punctuality and longevity than their able-bodied peers. There is no reason to believe that disabled trainers would vary from that norm.

A 1987 study conducted by the Job Accommodation Network (JAN) in Morgantown, WV, for the International Center for the Disabled in New York City reported what the managers had to say about their workers with disabilities. Reliability, attendance and punctuality were

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judged better than among able-bodied employees 39 percent of the time—and worse less than 0.5 percent of the time.

There is no evidence that trainers with disabilities are less productive, less desirous of promotion, less willing to work hard or less likely to assume a leadership role than their able-bodied peers. If anything, studies suggest that disabled job candidates may be a better risk.

Can the candidate facilitate a group?

In nontechnical training courses, especially, this might be the most compelling argument against a trainer who is deaf or blind. Group-process facilitation is acknowledged to be a complex and subtle art. The able-bodied facilitator might have a hard time imagining how a deaf or sightless trainer could cope with the task of processing the wealth of verbal and nonverbal behavior in most groups.

Is the ability to function effectively as a group facilitator essential to the job? Only you can answer that for the job you have in mind. Are there reasonable accommodations that might be made? Can groups be co-facilitated? Can students process their own discussions with less reliance on the trainer as facilitator? Can the program be reconfigured to reduce the need for process facilitation while still achieving its stated objectives?

There is no denying the power of nonverbal communication. "It is frustrating not to be able to see my students' faces," admits Zibula. "But I hear them. And because I am blind, I pay more attention to what I hear than a sighted trainer might. I compensate for my blindness by using my other senses more, because I have to. It's no different than when I drop a coin on the floor. You might look to see where it rolls. I listen."

Can the disabled trainer model the task or skill being taught?

"Modeling" or demonstrating a skill can be essential in certain training situations. One of the most obvious concerns about a disabled candidate for a training job is whether the person can model critical tasks or skills. What is called for here is some kind of objective test.

The most difficult task facing the training manager is to get beyond stereotypical thinking. When she's not at the podium, Denise Pursel is an employment specialist at Spiegel. That means it's her job to determine whether candidates are capable of filling various positions at her company. "We set up the task and let the job candidate show us how they would do it," she says. "Our concern is if they can do the task, not if they can do it the same way an other employee does it. What matters is the result, not the process."

The message for the training manager: Instead of trying to guess whether applicants can compensate for their disabilities, let them show you. Remember, however, that to satisfy the ADA you must use the same selection criteria for all applicants. If the ability to model a specific skill is at issue, you should require all prospective trainers to demonstrate their modeling abilities for that skill as a prerequisite to the job being offered.

Remember, too, that not all able-bodied trainers can perform every aspect of the job with equal skill. Once, while teaching an advanced instructional skills workshop for trainers at AT&T, we had a student (a trainer with more than two years' experence in the classroom) who could describe, but could not for the life of him demonstrate, the skills needed to debrief a small-group activity. He could lecture, lead discussions and administer self-paced training. But role plays, case problems and structured group activities were simply beyond his reach. In a small organization with a skeleton training staff, this might indeed have been cause to transfer or fire him. At AT&T, however, there was plenty of work for someone who was good at lecturing, leading discussions and administering self-paced training. It was simply a matter of assigning him to tasks that played to his strengths.

If modeling a critical skill is beyond a candidate's capability, and it is an essential function of the job, then the candidate probably is wrong for the job. But be careful that you don't confuse "essential" with "the way we have always done it." Is there a reasonable alternative that might enable you to use this trainer without sacrificing learning? Could you use a videotaped model? Could another trainer help out with a particular course module and serve as the model or demonstrator? Could a student serve as the model, with the trainer talking him through the task?

Can I use a trainer with a disability in all my programs?

The ADA requires that an employee be able to perform the "essential functions" of the job. Perhaps it's the norm in your organization that all trainers be able to deliver all courses; that certainly makes the administrative job easier. But is total flexibility essential?

Forget disabled people for a moment. If you manage a good-sized training department, you might start out scheduling all trainers equally to handle all courses. That seems easy and fair. But in fact, trainer Betty will prefer lecture-based courses, trainer Bob will hate them, and so on. Pretty soon, swaps will be negotiated. Ultimately, your training schedule probably will reflect the trainers' personal strengths and preferences—that is, unless you insist on sticking to your original plan. And why should you, when the net result is likely to be better training as each trainer leans into his own strengths?

How much will "reasonable accommodation" cost?

Reasonable accommodation is not a new issue. It first emerged as a result of the Rehabilitation Act of 1973.

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There is a wealth of data as to what constitutes reasonable accommodation and how much it costs.

A JAN study in 1987 reported that reasonable accommodations cost the employer $50 or less in about half of the cases studied and less than $500 in about 70 per cent of all cases.

The same study reports that employers claim a 9-to-1 ratio of benefits derived compared to the costs of accommodation. Those benefits include saved training dollars (when the company promotes or transfers a disabled employee into a vacant job instead of hiring a new person), lowered workers' compensation and benefits costs, and increased worker productivity.

Pursel says the most common accommodation at Spiegel is to raise a desk two inches using four scraps of 2-by-4 lumber. That increases the clearance and allows most wheelchair users to glide up to their workstations. The most expensive accommodation Spiegel has made (for a person with multiple disabilities) cost $5,000.

As a practical matter, accommodations are often funded by nonprofit agencies. That is how many people with disabilities obtain their wheelchairs, prostheses, guide dogs and other aids. In those cases the cost to the employer is zero.

Reasonable accommodation is a litmus test for whether or not a person must be considered for a given job. It is risky to assume that accommodation will be prohibitively expensive. It is much safer to explore how to accommodate a particular person's disability directly with that individual than it is to stereotype the individual. Don't judge one person's unique needs by previous experience with another who had a similar disability.

Keys to Success

There certainly are people in the world who, despite being highly motivated, are not well-suited to be trainers. This is true of disabled and able-bodied applicants alike.

The biggest mistake is to presume to know what an individual with a given disability can or cannot do. Define the essential elements of the job and let them tell you how they will perform those functions. Every trainer—every human being—has strengths and weaknesses, capabilities and limitations. Physical disability is just another limitation to work around. The key is to focus on abilities, not disabilities. See the person, not the wheelchair or the guide dog. In defining jobs, focus on the desired outcomes rather than the processes you've been using to achieve them.

Workforce 2000 and other studies report that we are going to face a shortage of qualified, talented people in just a few years. According to the official government estimates cited in the ADA legislation, there are currently 43 million Americans with disabilities. Of those 43 million, says the President's Committee on Employment of People With Disabilities, about 7.75 million are between the ages of 18 and 50, unemployed and actively seeking work.

Among those millions are people who could be effective, successful trainers, people who would enhance your operation's reputation and effectiveness. The Americans with Disabilities Act tells us that training managers cannot afford to ignore the valuable resource represented by the motivated, talented, qualified applicant who happens to have a disability. Good sense tells us the same thing.

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Excerpt from: *TRAINING MAGAZINE'S* 1992 SALARY SURVEY

Sample Demographics

Variable	% of Sample	Av. Salary	Variable	% of Sample	Av. Salary
Location			**Industry (cont.)**		
Pacific	15	$49,872	Educational Services	7	$45,806
West Central	7	44,701	Public Administration	9	42,084
Central	17	44,045	**Sex**		
Great Lakes	20	45,457	Male	52	53,796
Northeast	19	53,463	Female	48	41,567
Southeast	22	47,823	**Educational Level**		
Employee Size			No college degree	20	41,329
Fewer than 500	40	45,627	Bachelor's	20	45,646
500 to 2,499	26	46,241	Bachelor's +	19	46,187
2,500 or more	34	52,115	Master's	35	50,955
Gross Sales/Assets			Ph.D.	7	63,408
$19.9 million or less	37	45,220	**Years of Experience**		
$20 to $499.9 million	38	48,893	3 or less	29	40,295
$500 million or more	25	53,107	4 to 7	28	45,587
Industry			8 to 12	22	49,197
Manufacturing	26	50,331	13 or more	21	59,668
Transportation/ Communications/Utilities	7	55,149	**Age**		
Wholesale/Retail Trade	7	48,238	Under 30	8	32,448
Finance/Insurance/Banking	13	45,706	30 to 35	19	40,324
Business Services	22	48,825	36 to 44	36	48,488
Health Services	8	45,004	45 or older	37	54,420

(*Editor's Note:* This data and the data on the following pages is taken from *TRAINING Magazine*'s annual survey of its readers' salaries. The article that reports the overall survey results is summarized in the following "In Brief" section.)

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Men vs. Women—Jobs

Job Category	% of Sample	% of All Men	% of All Women	Overall Average Salary
HRD Manager				
Executive-level training/HRD manager. (Other managers report to me.)	8	11	6	$63,627
Manager of a training/HRD department or function. (Five or more full-time training professionals report to me.)	9	10	8	55,106
Manager of a training/HRD department or function. (One to four full-time training professionals report to me.)	17	15	19	46,321
I am, in effect, a one-person training department.	26	22	30	41,601
HRD Specialist				
Classroom instructor	6	6	5	38,394
Instructional designer	3	2	4	38,787
Management development, career development or organization development specialist.	6	7	6	46,020
Other				
Personnel specialist	2	2	3	37,843
Personnel manager	4	3	6	46,498
Line or staff manager/ specialist other than training or personnel.	18	22	15	55,157

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HOW MUCH ARE YOU WORTH?

This worksheet will provide one answer to that question. Whether you agree with it or not is your business. But this formula, based on *TRAINING Magazine* readers' exact salary figures, will allow you to compare your salary with those of your colleagues in similar circumstances.

To calculate your "worth," consider your demographic variables. Start with the base salary and add, subtract or do nothing, according to directions. Chances are your total won't end up right on the money, but it will be in your salary range. You may also want to use the worksheet to help give you a ballpark range for other training positions in your company.

A note for the obtuse: the line that instructs you to add $10,839 to salaries for men reflects existing inequities in the marketplace. It's not a recommendation for setting salaries. Offer more money to a man than to a woman for the same job only if you enjoy protracted and expensive litigation.

Salary Worksheet

Base Salary	$18,271	$18,271
Specific Job Description		
Training/HRD manager (five or more full-time trainers)	–0–	_____
Training/HRD specialist (one to four full-time trainers)	- $ 5,276	_____
One-person training department	+$ 7,250	_____
Training specialist	- $11,082	_____
Age: Multiply age x $409	+$ ____	_____
Gender		
Male	+$ 8,159	
Female	–0–	_____
Education		
Bachelor's	+$ 3,078	
Bachelor's plus	+$ 6,156	_____
Master's	+$ 9,234	_____
Ph.D.	+$12,312	_____
Years of Experience:		
Number of years x $283	+$_____	_____
Department's Primary Function		
Marketing/Sales	+$ 7,421	_____
Your Primary Activity		
Marketing/Sales Training	+$ 5,257	_____
Location		
West Central	- $ 6,639	_____
Central	- $ 5,726	_____
Great Lakes	- $ 5,250	_____
Industry		
Business Services	+$ 2,709	_____
Organization's Gross Sales/Assets		
$1 million to $4.9 million	+$ 1,507	
$5 million to $19.9 million	+$ 3,014	_____
$20 million to $59.9 million	+$ 4,521	_____
$60 million to $149.9 million	+$ 6,028	_____
$150 million to $499.9 million	+$ 7,535	_____
$500 million to $999.9 million	+$ 9,042	_____
$1 billion to $9.9 billion	+$10,549	_____
$10 billion or more	+$12,056	_____
		_____
TOTAL		$ _____

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TDY 93/94 IN BRIEF

SURVEY OF TRAINERS' SALARIES

Source: "Honey, They Shrunk My Paycheck," by Bob Filipczak, *TRAINING Magazine*, November 1992, pp. 21-29

This report summarizes *TRAINING Magazine's* annual survey of trainer's salaries. Blaming the continuing recession, the author reports that the average is now at $47,961—a 3% decline from last year. Although he attributes the drop to the continuing recession, he also notes that the change may be statistically insignificant. Tables included with the article summarize salary data for:

- Executive-level training/HRD managers,
- Training/HRD managers (with 5+ reports),
- Training/HRD managers (with 1-4 reports),
- One-person training departments,
- Classroom instructors,
- Instructional designers,
- Management, career and organization development specialists,
- Personnel managers,
- Personnel specialists, and
- Line or staff managers/specialists outside training or personnel.

For each of these job categories, the average salary is reported by geographic region, by number of employees in the organization, by gross sales/assets of the organization, by industry, by sex, by educational level, by age, and by years of experience. The author pays particular attention to the salary gap between men and women, observing that the gap narrowed over the past year, with women's salaries increasing and men's dropping. He also comments on the level of bonuses received and on trainers' expressed satisfaction with their pay. As in earlier years, the article includes a chart that allows the reader to use survey factors like education, industry, years of experience, etc. to calculate whether his or her salary is above or below average. (AN21)

SALARIES IN CBT

Source: "Salaries in CBT," by Floyd Kemske, *CBT Directions*, March-April 1992, pp. 12-25

"The people who develop, manage, and administer computer-based training are doing pretty well, thank you," begins the author. A November poll of 1000 CBT professionals netted 275 responses. After explaining some of the weaknesses of the survey and giving tips on interpreting the data, the author presents highlights:

- The average annual salary for CBT professionals is $43,400, up from $40,500 a year ago.
- Those who design, write, or code instructional packages (one to 5 years of experience) receive $33,300 to $35,000 on average.
- Males earn $44,600 compared to $37,700 for females, overall.
- Those with less than 3 years' experience earn $39,100 compared to $48,800 for those with 7 or more years of CBT experience.
- Salaries on the West Coast and in New England are higher than elsewhere.
- The most common educational attainment for CBT professionals is a master's degree—38% of respondents. (AN22)

SALARIES IN DATA TRAINING

Source: "Salaries in Data Training, 1992," by Floyd Kemske, *Data Training*, November-December 1992, pp. 22-31

Pay for computer trainers is up in nearly all categories, says the author, and more training departments are expanding than are shrinking. In this study of salaries in the data training field based on 290 respondents (49% male), the author notes a number of positive trends. While overall salaries are up, numbers of managers and their salaries declined, while staff salaries rose. "Looking at these differences," he says, "it's difficult not to conclude that data training has been, as they say, delayered," removing a major portion of management from this function. He notes that 70% of training units stayed the same or increased in size in the *past* year, and 85% are expected to stay the same or increase in the *next* year. Median salaries for women rose from 78% of men's, to 85% of men's. The author sees little salary spread between regions, though New England is the highest. Median salaries are compared with 1991 figures by job responsibility:

- Manage computer training projects or function—$47,500 (1991), $46,000 (1992)
- Instruct, design, or develop computer training—$34,800 (1991), $39,100 (1992)
- Self-employed training consultant or instructor—$43,800 (1992)

Those who attended college without graduating grew in median salary from $34,000 in 1991 to $41,800 in 1992. Those involved in purchasing or developing CBT or interactive video instruction were paid somewhat higher ($41,500) than those who did not ($38,500). Tables in this article break down median salaries by education, experience, company size, the effect of formal training. (AN23)

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G. WORKING WITH TRAINING PROVIDERS

TDY 93/94

CASE STUDY: ON-SITE EDUCATION AT MILES PHARMACEUTICAL

Source: "Bringing Education to the Office: The Right Prescription for the Pharmaceutical Division of Miles Inc.," by Harvey Shapiro, *The Bricker Bulletin*, September-October 1992, pp. 10-11, 18

Since the fall of 1991, Miles Pharmaceutical Division has been offering associate's and bachelor's degrees, and an MBA program—all on-site at the company's production and research facility in West Haven, CT. This article examines the advantages of bringing college and graduate school courses to the work site, particularly in: (1) making it easier for employees to simultaneously manage their jobs and their education, (2) enhancing networking among the employee-students, and (3) allowing students to work with universities that specialize in the courses they need regardless of where in the country that school may be located. The article also touches on some of the specific courses offered through the company, on the issue of how students maintain contact with their out-of-state professors, and on the company's 100% reimbursement for program costs on course completion. (AN24)

TDY 93/94

CASE STUDY: TRAINING THROUGH UNIVERSITY PARTNERSHIPS AT CORNING AND US WEST

Source: "Outsourcing Training: Some Find It's Addition by Subtraction," by David Zielinski, *Training Directors' Forum Newsletter*, October 1992, pp. 1-3

Outsourcing training—to universities or to other training suppliers—can save time and cut costs, says the author. This article describes two partnerships between industry and academia. Corning Inc. decided to farm out their "low impact" individual skills training to the College Center of the Finger Lakes (CCFL). Corning benefits through reduced administrative and management costs, while CCFL gets new business and prestige. CCFL delivers some 150 individual skills courses, about 1/3 of which are customized, in on-site Corning classrooms. By using a satellite dish to tap into televised courses, CCFL has been able to add another 1,000 courses from which to choose. Corning trainers still deliver the training for work teams or for classes dealing with "high impact" systemic change, such as quality awareness. The second example of partnership is between US West and the University of Denver. US West divides training into "centers of competence." The company chose the University of Denver's master's degree program to provide more advanced training in project management skills, including both technical and soft skills. Classes are taught on company time in US West's on-site classrooms. The company divides training into 3 categories:

- **Basic skills prerequisite to the job.** Many of these are delivered by local community colleges.
- **Current job skills.** These needs are met by both in-house trainers and by outsourcing.
- **Advanced skills required by new technology.** Training for these is designed and delivered primarily by the training staff. (AN25)

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TDY 93/94 CASE STUDY: TUITION REFUND PROGRAM AT K.W. MUTH COMPANY

Source: "Education and Empowerment Drive Teamwork," by Robert L. Reid, *Technical & Skills Training*, January 1992, pp. 20-24

The K.W. Muth Company not only pays for continuing education classes in subjects from remedial reading to cake decorating, it also shares power with its employees, says the author, resulting in a more competitive, team-oriented workforce. The 300-employee company reimburses employees up to $1,000 per semester for tuition and books for courses it approves. According to CEO Mike Muth, allowing free choice at the beginning of course selection builds self-esteem and confidence, particularly among workers who have never been successful academically. Success in fun courses stimulates them to go on toward more business-oriented classes. While the company spent approximately $70,000 on employee education in 1991, they are pleased with the results of this program, which now services 20% of the company's workforce at any given time. The author also discusses power and profit-sharing at Muth. The article concludes with a discussion of Muth's PRIDE (Problem-Resolving Individuals Dedicated to Excellence) teams, which work on plans to reduce waste throughout the company. This approach has paid for itself with: (1) nearly zero turnover, (2) a 25% increase in sales, (3) growing market penetration, and (4) over 6 million of the company's dashboard insulators produced without a single reject. A sidebar describes the on-site courses currently available or in development at Muth. (AN26)

TDY 93/94 IN BRIEF

SELECTING A CONSULTANT

Source: "The Art of Choosing a Consultant," by Craig Steinburg, *Training & Development*, January 1992, pp. 21-26

This article consists of interviews with 4 prominent training professionals: Kate Ludeman, Douglas B. Turner, Geoff Bellman, and Jeanne Oliphant. Some of their recommendations for selecting a consultant are:

- Determine the extent of the consultant's commitment to helping you succeed.
- Look for someone with whom the executive staff is comfortable and who clearly shares the values you are trying to instill into the culture.
- Look for clear evidence that the consultant knows how to measure the effectiveness of this or her programs.
- Have the consultant define the scope of his or her abilities and expertise.
- Once you have hired the consultant, look not only for evidence of expertise, but also for the breadth of that expertise.
- Decide in advance whether you are hiring a consultant to solve a problem or to define one.
- Clarify the specifications of your project and the expertise required for them.
- Conduct face-to-face interviews only after researching the prospective consultants, checking their references thoroughly, and narrowing the field to 2 or 3 candidates. (AN27)

WORKING WITH CONSULTANTS

Source: "Calamitous Consulting (A Cautionary Tale)," by Beverly Geber, *TRAINING Magazine*, May 1992, pp. 41-46

Rory Patterson, a new training director, is asked by the CEO to hire a consultant. In the margins of this fictitious story of Rory's mistakes, veteran training directors annotate the errors he made in working with the consultant. In a sidebar, the author discusses several tips for working with consultants: (a) do your own front-end analysis, (b) choose consultants carefully, (c) get all the details in writing, (d) keep track of the project, and (e) stick to the original plan. (AN28)

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BUYING CONSORTIUMS

Source: "How Trainers are Joining Forces to Cut Their Costs Significantly," *The Microcomputer Trainer,* February 1992, pp. 1-15

This issue of *The Microcomputer Trainer* examines the cost saving potential in forming a buying consortium with trainers from other organizations. The issue contains 4 articles which highlight:

- How 5 major vendors of self-paced PC training products offer discounts up to 50% through consortium negotiation;
- Tips for launching a successful training consortium: (1) recruiting members, (2) developing your group profile, (3) coping with administrative tasks, and (4) targeting your first vendor;
- How a for-profit consortium negotiated a 40% discount for public PC training classes without being forced to commit to a minimum number of attendees; and
- How a consortium saved a total of $1.6 million in computer and "soft skills" training costs. (AN29)

NEGOTIATING EDUCATION CONTRACTS WITH COLLEGES

Source: "Benefit Bargains May Be Awaiting Employers," by Bruce Shutan, *Employee Benefit News,* March 1992, pp. 3, 90

Corporations may be able to secure major savings from colleges and universities through volume discounts, says the author. It's a buyer's market, he continues, especially when there are several colleges in the same area. Colleges are preparing for the "Baby Bust" and are thus eyeing adult education and evening programs to offset the loss of students. It also costs a college far less to educate corporate employees than on-campus undergraduates, due to savings in marketing costs, support services, financial aid, housing, athletics, etc. Sometimes the courses can be offered on-site. The biggest savings will come from introductory or standard courses, the author says; specialized courses are less negotiable. He sees this trend as helpful (1) for colleges, who are thus enabled to stabilize their student population levels and (2) for corporations, who will obtain a better-educated workforce. (AN30)

COMMUNITY COLLEGES AND BUSINESS TRAINING

Source: "Custom Training on a Budget," by Marcia Forsberg, *Personnel Journal,* April 1992, pp. 112-119

More and more frequently, businesses are teaming up with community colleges to create on-site, customized training for employees. This article looks at *BusinessLink,* a 3-year-old program at Coast Community College (Costa Mesa, CA), which serves over 60 businesses with courses ranging from pre-employment assessment, to nursing and welding. The author examines the numerous applications for *BusinessLink,* and she summarizes various companies' experience with those applications: (1) assessment, (2) strategic planning, (3) English as second language instruction, (4) on-site skills training, (5) managerial and supervisory skills, and (6) hiring and selection. A sidebar discusses the 8-step *BusinessLink* process. (AN31)

H. THE NATIONAL PERSPECTIVE ON TRAINING

TDY 93/94 IN BRIEF

LEARNING AND ECONOMIC ADVANTAGE

Source: "Learning: The Critical Technology," by Anthony Patrick Carnevale, *Training & Development,* February 1992, S1-S16 (special supplement)

"Most competitive improvements can't be bought," says the author, ASTD's chief economist, "they have to be learned. In fact, economists estimate that 60% of competitive improvements come from learning to make better use of the resources we buy." Economic success, he says, is *not* predicated on natural resources, financial investments, savings rates, scarcity, free markets, or a military presence, but on the ability to understand and utilize a loosely connected set of economic and social processes, including: scientific inquiry, invention, innovation, emulation, investment, commercialization, and cumulative learning. "The cumulative and self-reinforcing dynamic of learning tends to confer runaway momentum in the competitive race to those who can jump-start learning processes and develop formal structure and informal behavior for capturing new learning," he observes. "Once organizations or even whole nations build leads, it is hard to catch up." But the cumulative value of

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learning in leveraging economic progress is not inevitable, he warns. Eventually, processes and technologies are simplified and learned by one's competitors, competitive advantage shifts to the low-cost producer, and new learning tends to decline in value over time. Proportional returns are found rather in services for which the introduction of new technologies is sporadic. The author also observes that it is difficult to change paths once the accumulation of learning and experiences reaches a critical mass, even though other paths may prove superior. "We should not take the path of economic progress for granted," he concludes. "Old and once successful habits die hard. Since the last century, we have led the way. As a result, we labor on down the path of economic progress, dragging the dead weight of our past successes along behind." (AN32)

BUILDING BUSINESS IN THE INNER CITY

Source: "Blight Busters," by Marc Hequet, *TRAINING Magazine,* September 1992, pp. 30-34

Every plan to revitalize the inner cities depends on business to provide the essential components: training and jobs. Further, the author adds, without a skilled work force, the outlook for long-term business profits is as blighted as the inner cities are now. The people looking for full-time, entry-level work live in the inner cities, not the suburbs, the author says, cautioning against companies moving their businesses into suburbia and out of reach of potential employees. He proceeds to discuss several advantages to situating companies in the inner city:

- Unemployed or underemployed people seeking jobs may accept lower wages,
- Tax advantages connected with enterprise-zone legislation and the JTPA apply in many inner-city areas,
- Mass transportation assures people a way to work despite clogged freeways and bad weather, and
- Workers feel they have more of a stake in a company that is part of their neighborhood.

To solve the problem of raising funds for skills training, the author explores owner-controlled insurance programs and partnerships with inner city improvement organizations such as the National Urban League, Opportunities Industrialization Centers, and SER-Jobs for Progress Inc. Still, finding quality trainees in the inner city requires work, and the author offers tips in that direction: (1) find and work with community groups that have a track record for placing client trainees, (2) expect to monitor people closely, since the underemployed are unaccustomed to the workplace, and (3) don't waste time and sympathy on goof-offs. He also discusses the need to train inner-city and second- and third-generation welfare youth on business dress and the way to apply for a job in the first place. (AN33)

CLINTON ON JOB SKILLS TRAINING

Source: "Training in Campaign '92," by Ron Zemke, *TRAINING Magazine,* October 1992, pp. 67-72

This pre-election article describes the positions of Governor Clinton and President Bush on job skills training. Both candidates start with 2 assumptions: (1) a high-skills, high-wage work force will make American companies more competitive globally, and (2) focusing on the production and export of manufactured goods will boost the American economy. Clinton's training proposals center on 3 assumed workplace entitlements:

- **Lifetime job training.** Clinton maintains that a disproportionate amount of training dollars is spent on managers and professionals. He wants to force a redistribution of these dollars. "A company could either invest 1.5% of its payroll in training for its own workers...or give the money to the government," says the author.
- **Adult literacy.** Clinton leans toward mandating workplace literacy programs, according to the author.
- **Apprenticeship programs.** Clinton wants to create a national apprenticeship program open to all high school graduates who do not go on to college.

The author goes on to outline Bush's proposals—now a moot point. Criticisms of both sides are then presented. Critics claim that Clinton's proposals (1) will add new employer taxes, (2) will lead to more government intrusion, and (3) are based on faulty assumptions. According to Anthony Carnevale of the American Society for Training and Development, Clinton's proposals would double what is spent on training in America and double the number of corporate trainers. His plan would probably also create 1.8 million new jobs in 5 years, says Carnevale. However, Carnevale doubts that Clinton will be able to push his training proposals through Congress intact. Clinton is more likely to end up with a tax credit rather than a new tax. The final question is whether Clinton is serious enough about his proposals to make training policy a key issue during his term. (AN34)

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I. BUSINESS AND THE PUBLIC SCHOOLS

TDY 93/94

CASE STUDY: DISNEY'S SUPPORT FOR EDUCATION

Source: "Disney Helps Keep Kids in School," by Jennifer J. Laabs, *Personnel Journal,* November 1992, pp. 58-62

Because of its outstanding efforts in bringing the expertise of individuals in business to students, *Personnel Journal* chose the Walt Disney Company to receive its 1992 Optimas Award in the "Partnership" category. This article examines Disney's Challenge Program that was instrumental in the company's winning of the award. The program provides 9 months of schooling yearly for 42 potential high school dropouts, and it includes work opportunities at the same time, since most participants are primary breadwinners for their families and many often have children of their own to support. Once in the program, the Challenge Center becomes the students' school, and they have little contact with their home school except through the teachers and counselors whom the school system provides. The low student-to-teacher ratio at the center (5:1) is a significant factor in the program's success, as is the opportunity the students have to connect what they are learning in the classroom with what they are doing on the job. On graduation, students usually are given the opportunity to continue as full-time cast members at Walt Disney World, although the students are also encouraged to go on to bigger and better things, as well. A sidebar discusses some of the other Disney educational offerings: college curriculum, work/study, co-op programs, nontraditional education, partnerships, mentoring, scholarships, honors and awards, in-school drug prevention, teacher merit awards, the American Teacher Awards, educator seminars, outreach programs, and participation in Junior Achievement. (AN35)

TDY 93/94

CASE STUDY: NABISCO'S COMMITMENT TO EDUCATION

Source: "Nabisco Tackles Tomorrow's Skills Gap," by Joyce E. Santora, *Personnel Journal,* September 1992, pp. 47-50

Education is a corporate priority at RJR Nabisco, this author says, and the result is a series of programs that address the educational needs of the employees' children as well as those of the employees themselves. This article looks at steps Nabisco is taking to provide post-high school education and training for its employees and their children, including:

- Post-secondary-education financial assistance,
- Time off for parents to visit their children's schools, particularly on the first day of school and for parent-teacher conferences,
- Training and incentives for employees who take leadership roles in education, including Ambassadors for Education workshops designed to "prepare concerned employees to be positive and knowledgeable agents for change in their local schools," and
- Expanded work-skills training for employees, so that no one is denied promotion or transfer capability because of a lack of basic skills.

Characterizing these steps as a downpayment on the future, company leaders conclude that "all citizens in corporate America should participate in the improvement of the public schools system." (AN36)

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TDY 93/94 CASE STUDY: KODAK ASSISTS SCHOOLS WITH SCIENCE AND MATH

Source: "Kodak is Confronting Troubles in Public Education," *Training Directors' Forum Newsletter,* March 1992, p. 6

In 1990, Eastman Kodak Co. launched the "21st Century Learning Challenge," in which Kodak volunteers teach math and science to children in communities where Kodak has major manufacturing facilities. The program's early success—raising standardized science test scores of fourth graders by 25 points—led to the program's expansion. In 10 years, Kodak expects students' math and science achievements to equal the average achievement of students in top-ranking countries. So far, 800 Kodak employees are involved, and they are paid to volunteer their time for about 2 hours per week, though many give their own time beyond that limit. As a follow-up, Kodak is developing a science assessment test for K-6 to compare program participants to non-participating students, as well as to students from other countries. Kodak also asks teachers and administrators to apply quality management principles to all facets of their work. Eventually, the company hopes to develop a "School Quality Award" on the order of the Baldrige award. (AN37)

TDY 93/94 CASE STUDY: PAYING STUDENT EMPLOYEES TO DO HOMEWORK AT McDONALD'S

Source: "McPay for McStudying," *Training & Development,* July 1992, pp. 9-10

Given the limited opportunities for advancement at fast-food restaurants, franchise owners can't offer adult applicants much. However, this article examines how Pat Newbury, a McDonald's franchise owner in Seattle, helps his high school employees by paying them to do their homework. He allows them one hour of paid study time before or after their shifts, and he designates specific booths in his restaurants as study areas. Newbury also has a point system that awards points for every "A" or "B," as well as for other things, such as perfect attendance and birthdays. Points can be redeemed for merchandise or theater tickets, or they can be applied toward the cost of tuition and books when employees go on to college. In return for his efforts, Newbury has a greatly reduced turnover rate (about 1/3 the national average for his type of business), and he experiences increased customer satisfaction, thanks to his motivated and hard-working employees. (AN38)

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TDY 93/94 IN BRIEF

PRIVATE MANAGEMENT OF PUBLIC EDUCATION

Source: "Foot In the Door," by William Tucker, *Forbes*, February 3, 1992, pp. 50-51

Even though educational bureaucracies hate the idea, says the author, a number of private companies are getting into the public school business. This article discusses the inroads made by Education Alternatives, Inc., Ombudsman Educational Services, and Whittle Communications in improving school management and the quality of education. With over 60% of school budgets going to feed educational bureaucracies, these private companies estimate they can reduce costs by as much as 25% and reduce student-teacher ratios, as well. The author concludes that, due to parental and taxpayer demand, the swing to private-sector education is progressing slowly but inevitably. (AN39)

THE SCANS REPORT ON PREPARING STUDENTS FOR WORK

Source: *Learning a Living: A Blueprint for High Performance—A SCANS Report for America 2000*, The Secretary's Commission on Achieving Necessary Skills, U.S. Department of Labor, April 1992, 86 pages, $6.50 (available from U.S. Government Printing Office, Superintendent of Documents as stock #029-000-00440-4)

Noting that an increasing number of high school graduates are unable to support a family on the low wages they receive, in 1989 the U.S. Department of Labor formed SCANS (the Secretary of Labor's Commission on Achieving Necessary Skills) from representatives of government, education, business, and unions. This book represents the Commission's final report. In short, the Commission identified the following as needed for solid job performance in high-performance (and higher paying) jobs:

- **5 workplace competencies:** resources, interpersonal skills, information, systems, and technology.
- **3 foundation skills:** basic skills (reading, writing, arithmetic and mathematics, speaking, and listening), thinking skills, and personal qualities.

The book gives a series of recommendations for schools, for industry, and for the standards, assessments, and certification necessary to develop a nationwide SCANS know-how movement. One recommendation involves developing, for each student, a resume which would list proficiency levels achieved for each of the SCANS competencies, skills, personal qualities, and core academic and elective courses—with ratings which would allow employers to compare students' performance between schools. The Commission recommends issuing a Certificate of Initial Mastery when students meet the overall standard. (AN40)

BUSINESS-EDUCATION PARTNERSHIPS

Source: "Partners in Education," by Sharon Pinebrook and Daniel Bissonnet, *Training & Development*, May 1992, pp. 69-74

How can the free enterprise system, private corporations, and the public school system work to provide basic education? The authors examine 3 questions which help provide the answer:

- **What do we expect of education?** Our expectations of education should include basic skills performance measured against the skills and knowledge that are needed on the job—which have changed dramatically. The demand has shifted from blue-collar workers to professionally trained workers.
- **What's the current status?** Dismal. The authors cite statistics of 25 million illiterate adults in the U.S., 47 million borderline illiterates, 30% functional illiteracy, and 30% high school dropouts.
- **What are companies doing?** The authors highlight programs by Ford and the UAW, Mazda, and others. The authors give corporations an "A" when compared with the public school system.

"But we have not seen many coordinated efforts," warn the authors. "Such an approach is necessary at this crucial point in the history of U.S. education." They uphold the Houston Business Promise, an 8-point agreement with more than 550 signers, designed to (1) bring together the resources of the private and public sectors, (2) provide internships to local students, (3) communicate job and career possibilities to local schools, (4) offer financial grants, and (5) encourage employees to work with existing education organizations. "We have the buildings, teachers, volunteers, and mentors," conclude the authors. "What we need is national coordination to bring them all together with coordination efforts on a federal level." (AN41)

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Section 3
Program Design, Development and Implementation

At the most fundamental level, the trainer's stock-in-trade is ideas. Trainers must first conceptualize a training need or, rather, a requirement for some change in performance. Then they must intuit some means of meeting that need, assemble the necessary ideas from those who have the knowledge, organize this intelligence into a course or other intervention, and then communicate the ideas to trainees, who then, presumably, will perform differently. To navigate through this intellectual realm, trainers use models. Models help them organize and apply their ideas, and throughout this section of the *Training & Development Yearbook*, you will find recurring references to conceptual models that help trainers in the design, development and implementation of instruction.

Training needs assessment is one of the most highly conceptualized parts of this idea-management process, and in this subsection we begin with a systematic yet simple model of the needs assessment process. This is followed by an intellectually demanding, yet highly important questioning of the traditional "discrepancy model" approach to needs assessment.

The field of instructional design is, of course, built on conceptual models, and the first article in that subsection invites the reader to look at the process from the unique perspective of the risk management model. This is followed by another approach to the structuring of the field—standards for the corporate practice of instructional design and performance technology. Next in this subsection is a chapter from Rothwell and Kazanas' new *tour de force* on this subject, *Mastering the Instructional Design Process*. And the final article gives very practical guidance for the debriefing of a pilot training program.

The next subsection, "Creating Training Materials," continues in this very pragmatic vein with articles on video production techniques and on avoiding copyright infringement in the production of multimedia. Then, after summaries of the best of 1992's literature on the evaluation of training, we turn to the subject of training transfer with an article that gives a wealth of useful ideas for getting the most out of "practice" in the training room. This is followed by a novel proposal for using writing as a tool for actively engaging trainees and fostering the transfer of learned skills.

We return to more conceptual matters in the section on "Performance Management," which begins with a reprint of chapter 1 of Stolovitch and Keeps' *Handbook of Human Performance Technology*—clearly one of the most important new HRD books of 1992. This chapter is an excellent introduction to the concept of performance technology for anyone who still feels shaky about it. And to further clear the air, it is followed by Joe Harless' latest attempt to keep the field on track.

Throughout this section, you'll notice that several of the abstracts echo the theme of "quality" that ran through Section 2. Peter Senge's article on "Building the Learning Organization" is much more than an echo: he sees the concepts of "total quality" and "the learning organization" as closely related, and you will find in his article many new ideas on the roles you as a trainer can play in a quality effort. If you are still having trouble coming to grips with the concept of "the learning organization," then the next two articles will surely be helpful. Though they don't discuss the concept explicitly, you will perceive its practical implementation in the Marsick and Watkins article, where they show how several firms are implementing "reflective practice" and "continuous learning." And the final article in this model-laden, conceptual section gives pragmatic advice for fulfilling "Training's Role in a Learning Organization."

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A. TRAINING NEEDS ANALYSIS

A SYSTEMS APPROACH TO NEEDS ASSESSMENT

by Sam McClelland

In recent years, training needs assessments, or TNAs, have gained popularity with organizational management. Organizations are recognizing the worth of the information a TNA yields because it provides a snapshot of their human resource skill and knowledge levels.

This skill and knowledge inventory can lead to detailed training that is focused on areas where the greatest needs exist. The bottom line for management is that the TNA will provide a means of identifying areas where the firm can obtain maximum value for the training and development dollar.

Exactly what constitutes a needs assessment? Opinions vary. Some trainers support less complicated approaches, such as generalized surveys. Others support more comprehensive and detailed methodologies that may include surveys, random interviews to correlate the results, and continued analysis not only to determine existing needs but also to define future HRD requirements.

Whichever method you choose, a systems approach to TNA will help you illustrate how the assessment process integrates into the strategic plans of the entire organization. A systems approach can emphasize consistent and flexible ways to achieve ongoing analysis of the organization's human resources and the skills that will be required as a result of changes in the long-range plan. It can also help you identify a cost-effective, efficient means of meeting the skill and knowledge requirements that will most certainly be brought about by future changes.

What Is a System?

In general, a "system" implies order or a defined structure. A system is actually a collection of procedures or components that are interactive with each other.

In a hierarchical system, components generally rely, and to a degree are predicated, on one another—component "A" must be initiated or activated before component "B," because "A" contains properties that "B" will require. Likewise, "B" must be initiated before "C," and so on. In an open system, each component has a relative degree of independence; it is not dependent on other components.

The systems approach to a TNA bridges both types of systems. It is hierarchical in nature, but it is also open, in that each component is not strictly interdependent on any of the others.

The Systems Approach

Essentially, there are seven major steps to using a systems approach to needs assessment.

1. Determine whether to use internal or external resources. There are advantages and disadvantages to both. Many organizations believe that a TNA is not relevant unless it is conducted by an external consultant. They have a point.

Outside experts can bring a certain degree of neutrality to a project, because they are not as affected as employees are by the organization's culture. Outside experts can be relatively unbiased because they don't begin the project with preconceived notions or ideas regarding the results to be generated by the TNA.

An outside expert can focus directly on the TNA without being affected by forces that most employees would be subjected to. There are some drawbacks to using a consultant:

- An external consultant is likely to cost more than an internal expert.
- Internal HRD specialists may feel that they lose some control of the assessment when they use a consultant.
- Upper management may resist opening the organization to external scrutiny.

2. Define the goals of the assessment. Avoid injecting any preconceived notions about what you expect the results to yield. Try to define selectively the goals of the assessment. If the assessment is general in nature, the goals of the project will also be general. If the assessment focuses on a particular skill, the goals will be fairly specific.

The goals of the assessment serve as the reference point from which all steps in the process are drawn. The data produced by the assessment should reflect directly on the goals that are outlined at the onset of the project.

3. Gain management commitment. Regardless of who conducts the needs assessment, the entire project will be doomed from the start if you don't have the full confidence, commitment, and support of senior management.

Your chances for gaining such support will be greater if the goals or objectives of the assessment are defined in relatively specific terms. For example, in most compa-

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nies, the statement, "the TNA should be conducted to define training needs" would not be specific enough to gain senior management support for the needs assessment. From management's perspective, training is a cost for which immediate and tangible returns are not always received.

A better approach might be to illustrate how the organization's training and development dollars will be committed to developing training in response to needs or skills deficiencies identified by the TNA.

4. Select the most appropriate methodology. You can employ many different assessment techniques and methods. The one you select should complement the organization's culture and structure. For example, in a large organization in which assessment goals are narrowly defined, it might be best to use a written survey, with random personal interviews to correlate the results of the survey. This approach will provide a detailed consensus and can focus on any areas you want to assess.

If the organization is small, you may prefer to use focus groups or individual interviews that specifically address areas of interest. In most instances, such forums can provide the level of detailed feedback you want.

The key elements to consider when selecting which assessment methodology to use:

- The degree of exactness required
- The time needed to conduct the assessment
- Availability of experienced personnel (either internal or external) to conduct the assessment
- Cost factors, whether you are using an internal or external resource
- The ability to keep surveys or interviews confidential

5. Administer and control the assessment. The methodology you choose for the assessment should determine the parameters for administrating and controlling the project. This includes collecting survey instruments (assuming you use a written survey), tabulating data, scheduling personal interviews, determining costs, obtaining clerical and administrative support, and generally keeping the project on schedule and within cost parameters.

If you use an external consultant, clearly delineate administrative issues from the start. Specifically identify each person's responsibilities and the deadlines for meeting these responsibilities. A little thoughtful planning at the start will provide a smoother project later on.

6. Analyze the results. Regardless of which methodologies you use and who actually conducts the assessment, the data you collect make up the most important product of a systems approach. But the results of even the most meticulously defined assessments will contain variables that may be hard to quantify or identify.

You should regularly refer to the initial assessment goals so that information relating directly to those goals is at the forefront. Information that is peripheral to the goals of the assessment should be considered secondary.

For example, assume that the major goal of the TNA is "to identify people who require or would benefit from interpersonal skills training." Information relating to training in communications skills would be relevant, but it would be secondary to the principal goal.

It is important to be neutral when analyzing the results of an assessment. It is virtually impossible to prevent your own interpretation of the information from influencing your analysis and recommendations, but it is wise to keep such influences to a minimum so that you can clearly and concisely interpret and analyze the data.

7. Present upper management with the results and recommendations. Be prepared to justify your recommendations. Have the data available to substantiate your findings. If you use any statistics to analyze the results, it may be best to avoid quoting the statistical information in your presentation. But make the statistical computations available, perhaps as an appendix to the final report.

If actual training programs or formats are part of the recommendations, include as part of the formal report a topical outline for each, complete with a statement of objectives and estimated costs.

Strategic Value

For years, HRD professionals have emphasized the values of integrating training and development into the strategic planning process. Many organizations have begun to recognize the importance and cost-effectiveness of such issues, but there is still a great deal of resistance and apathy to such integration.

For some organizations, compliance with government or other regulations requires ongoing skill upgrading and retraining as a regular part of the cost of doing business. The systems approach provides them with a means of outlining the skill levels that currently exist and those that will be required in the future.

In industries in which technological change is prevalent, the systems approach provides a means of identifying and forecasting possible future skill or knowledge deficiencies. This ability allows organizations to plan for training or retraining on a consistent and realistic basis.

Needs assessment should be seen as integrated sets of procedures rather than groups of disproportionate elements. A systems approach can provide the basis for an ongoing means by which training needs can be efficiently defined and addressed in a cost-effective manner. Organizations that take a systems approach to training needs assessment may find windows of opportunity to assess not only existing skills, but also the skills that will be required to keep abreast of the rapid changes in business and technology.

Such organizations will gain value in committing their training and development dollars to activities that will be of benefit not only in the short term, but in the future as well.

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CASE STUDY: QUALITY-DRIVEN TRAINING NEEDS ANALYSIS AT NUTRILITE PRODUCTS

Source: "Total Quality Training," by David C. Markovitz, *Technical & Skills Training,* April 1992, pp. 29-32

With total quality as an engine, the training function at Nutrilite Products, Inc., a food supplements manufacturer, became part of the company's strategic plan. The author describes the 5-step process that an 8-member middle-management education and training steering team went through to develop training priorities Team members:

1. Developed a mission statement,
2. Polled employees to assess the strengths and weaknesses of their organizational units and compiled a list of education and training needs,
3. Decided on affinity clusters for these training needs,
4. Compiled a Pareto Chart of education and training priorities, and decided to concentrate efforts in the top 6 areas, and
5. Compiled a matrix of *what* training was needed for which employees, *how* that training ought to be conducted, and *who* might conduct that training.

The first training program selected for implementation was "Good Manufacturing Practices," which covered regulations from the U.S. Food and Drug Administration. A team of 5 trainers was given teaching, training, and facilitating skills after pilot programs were taught. The author says it took 6 months to move from forming the steering team to implementing the training. (AN42)

NEEDS ASSESSMENT—A CRITICAL REAPPRAISAL

by Theodore Lewis and David C. Bjorkquist

Introduction

Needs assessment is undoubtedly one of the more fundamental concepts underlying discourse in human resource development. The dominant needs assessment paradigm is the discrepancy model, that is, a conception of needs as gaps to be reduced or eliminated by instruction or other interventions. There is little arguing that this model has intuitive appeal, and that it serves as an important heuristic in setting forth the problem of diagnosing and remedying performance-related problems in organizations. But empirical support for its efficacy has been lacking. Over time, practitioner-minded authors (e.g., Rossett, 1982, 1990; Mitchell, 1984; Tesolowski, Newton, & Cureton, 1988) have lamented the insufficiency of the literature, and have articulated the need for a base of useful knowledge.

Rossett (1982) found the literature to be more helpful to the developer who was seeking to *prioritize* and *select* a need than it was to one seeking to *identify* needs. She observed that front-end strategies have not all enjoyed equally detailed prescriptions and that "nowhere is the presence of fervor and the absence of prescriptive detail more lacking than in the topic of needs assessment" (p. 28). Addressing deficiencies in the realm of management training, Mitchell (1984) called for "an intensive examination of management training needs analysis to set the stage for further work" (p. 70). He envisioned that such work could lead to the development of a "standard reference text" on the practice. In like vein, Tesolowski, Newton & Cureton (1988) argued that needs assessment remains in the "twilight zone" of management because it is not understood.

> The process of conducting an effective needs assessment can be enhanced by a comprehensive understanding of what needs assessments are, why needs assessments are implemented, and how needs assessments are performed (p. 26).

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They point out further that in practice needs assessment is a complex process; that "a perfect needs assessment model does not exist" (p. 29). Often the process fails because real-world factors (such as corporate policies, politics and workflow) have not been taken into account.

The common theme in the works cited above is that the theoretical frame provided by the discrepancy model is insufficient for practical purposes. There needs to be, in addition, explanations about needs assessments that are based on empirical evidence, derived from the heat of practice. What the practitioner needs is *grounded theory*.

While there is much that is unique about the field of human resource development, its discourse and practice stand only to gain if located in relation to other practical, "hands on" fields. For example, Schon's (1983) characterization of the reflective practitioner provides a useful way to conceive of the work of HRD practitioners. Schon suggests that practice itself is an important source of knowledge and wisdom, and that reflection on practice is an important way of knowing. In the field of teaching, where Schon's ideas have gained currency, "pedagogical content knowledge" (Shulman, 1986), or practice-based knowledge, has come increasingly to be recognized as the authentic source of knowledge unique to that field, and hence the authentic basis of theory..

On close examination, needs assessment can be seen to belong to the class of practice that is defined by two characteristics, namely 1) diagnosis (or troubleshooting), and 2) prescription and remediation. Diagnosis involves problem finding, that part of the process about which Rossett could find the least help in the needs assessment literature. Problems are found through diagnosis of the situation at hand, and how problems are diagnosed in large measure dictate their solutions. The discrepancy model of needs assessment purports to offer a way to diagnose (and hence to solve) problems. It offers theory.

But as Foshay (1988) points out, there is much that we don't know about the teaching of troubleshooting. "Theory in principle does not lead smoothly and unambiguously to generalizable prescriptions for practice" (p. 3). Questions not answered include "How should knowledge in a cognitive task analysis be represented?" (p. 3), and "Should (troubleshooting) strategies be taught or should they be acquired inductively?" (p. 3). Foshay suggested cognitive research as a way to address concerns such as these, research that focused on knowledge representation and expert knowledge.

The purpose of this article is to examine the discrepancy model of needs assessment critically in light of compelling reasons grounded in theory, research, and practice. We propose that it may not be the most creative or practical (and certainly not the only) way to approach the problem of diagnosing and remedying human performance problems in organizations. We contend that this model has been accepted largely on faith—by default—and that given the growing body of evidence on human problem-solving, there is now need for a reevaluation of its efficacy. Central to our arguments will be the notion that needs assessment presents a problem-solving opportunity—the opportunity to diagnose an organizational problem, and to prescribe a course of remediation.

We agree with Rossett (1982) that the primary challenges that needs assessments present include "finding problem(s) and finding details of a particular problem" (p. 30). We can also agree with Bjorkquist & Murphy (1987) that a prerequisite for needs assessments is having an appropriate problem. What we will be arguing here is that the discrepancy model is of limited practical value, in that it is a novice strategy for diagnosing (and solving) problems. To complement it, strategies based on expert knowledge are needed.

To accept our arguments will require agreement that needs assessment can be thought of as problem-solving. We do not expect that such a view will meet with wholesale acceptance, even though the dominant discrepancy model borrows heavily from problem-solving theory. But contention on this point could lead to fruitful debate about an aspect of HRD that to many has become dogma. Our arguments will begin with an analysis of the standard needs assessment model, to highlight its essential features and claims, and to establish it as a problem-solving technique. The model will then be critiqued, in terms of what is known about differences in expert and novice problem-solving strategies, and in terms of the practical experience of the authors. The nature of successful problem-solving, especially in the context of business and industry will then be examined. Here the problem-solving strategies of successful managers will be analyzed. A discussion will then follow, along with conclusions and implications for the field of HRD.

A Review of the Discrepancy Model

The needs assessment approach to instructional decision making in business and industry is especially evident in the work of Kaufman, arguably its foremost advocate (see Kaufman 1972, 1982, 1983a, 1983b, 1987, 1991 and Kaufman & Thiagarajan, 1987).

According to Kaufman:

> The identification of needs is a discrepancy analysis that identifies the two polar positions "Where are we now?" and "Where are we to be?" and thus specifies the measurable discrepancy (or distance) between these two poles (Kaufman, 1972 p. 28).

Said differently, required results minus current results equal need (Kaufman,1991, p. 86). To Kaufman, needs determination constitutes a problem to be solved. This is explained in an illustration taken from educational planning as follows:

> The needs identified and selected by an educational agency become the system problems. A problem is thus defined as: a documented discrepancy selected for resolution (Kaufman, 1972, p. 38).

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Evident in Kaufman's logic is the assumption that the needs assessment model is robust. It is a general problem-solving strategy, applicable not only in business and industry, but in education as well. The strategy is most clearly laid out in his Organizational Elements Model (OEM) comprised of Inputs, Processes, Products, Outputs, and Outcomes (Kaufman, 1983a). According to Kaufman:

> After determining What Is and What Should Be for each of the Organizational Elements (proceeding from outcomes in sequence to inputs) then *one may use a systematic problem-solving process* (emphasis mine) to get from What Is to What Should Be for the entire organization (p. 6).

In the context of business and industry, Kaufman distinguishes between reactive needs assessments (those premised on meeting products and outputs) and proactive needs assessments (those premised on the meeting of outcomes), that is, those sensitive to the societal context. Each level of the organization must take responsibility for some aspect of the total system and must fit with other levels to assure efficiency and effectiveness.

Needs assessment is accepted as a cornerstone of the process of instructional development (see for example, Kaufman & Thiagarajan 1987; and Okey, 1990). According to Kaufman & Thiagarajan, the initial steps of instructional development should proceed along the following lines:

1. Recognize that instruction is a means for closing gaps in performance;
2. Recognize that instruction should be undertaken to close gaps in products (and thus meet product level needs);
3. Recognize that meeting product-level needs is a first step in meeting output-level needs, and these in turn should be linked to meeting outcome-level needs;
4. Identify gaps in outcomes and then relate these to gaps in outputs;
5. Based upon output gaps to be closed, identify products gaps to be closed, and then identify those which may be closed most effectively and efficiently using instruction (p. 122).

Step Five above is the needs analysis phase, and this phase too is characterized by consideration of discrepancies (e.g., superordinate system discrepancies, management discrepancies, motivational discrepancies, and environmental discrepancies, among others).

In sum, then, needs are deemed to be problems, and hence needs assessment is in fact problem-solving. It is a conception of how organizational problems that have a human performance dimension can be diagnosed. As Kaufman 1987) notes, "needs assessments provide the direction for useful problem resolution through identifying, documenting, and selecting appropriate problems" (p.78). The role of the training professional is first to select "important problems" and to derive useful objectives before attempting to solve them in the name of organizational efficiency.

Beyond the discrepancy model, few alternative formulations of needs assessment appear in the literature. While it is not without merit, we believe that such merit may derive more from its conceptual than its practical aspects. And further, as shall be argued subsequently, the model may be more descriptive of how novices approach needs assessment than it is of how experts do. Bjorkquist & Murphy (1987) point out that needs assessments are by nature episodic. "Each needs assessment must be tailored to fit the organization in which it will be conducted and the characteristics of the particular problem to be studied" (p. 33). While the discrepancy model offers a general strategy that promises to transcend all needs assessment episodes, the simplification it provides belies the complexities that real problems present. The model may provide the novice a way to think about needs assessment, but not a way to do it.

Critique of the Discrepancy Model

At the beginning of this article we pointed out that practitioner-minded critics have lamented the absence of useful knowledge in the needs assessment literature. We contend that their frustrations are traceable to shortcomings inherent in the discrepancy model. These shortcomings are better explained when needs assessment is treated as problem-solving, and the discrepancy model as a problem-solving strategy.

Needs Assessment as Problem-Solving

As argued earlier in this paper, needs assessment is, in fact, problem-solving. It shares with other problem situations the features of diagnosis, prescription and remediation. The discrepancy model is thus a problem-solving technique, recognized in cognitive science discourse as "means ends analysis," a novice strategy. Gick (1986) describes the logic of means-ends analysis as one of "reducing the difference between the current state and the goal of the problem by applying approximate problem-solving operators" (p. 100). The goal can be, say, to cook a Chinese dinner, given only a stove. The cook must reduce the difference between the current and goal states by applying an operator (i.e., by going to the store and purchasing food). Means-ends analysis is applied recursively until the goal is reached (Gick & Holyoak, 1979). Clearly this way of thinking conforms to Kaufman's (1972) key questions set forth earlier, namely "Where are we now? Where are we to be?"

According to Gick, the technique is useful "whenever the initial and goal states of a problem are fairly well specified" (p. 100). This of course does not describe typical needs assessment episodes in organizations. She goes on to state that means-ends analysis may not necessarily be overtly applied when solving a problem. Rather,

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the strategy may merely serve to describe the process being carried out by the solver. This latter point is important, in that it cautions against too-literal interpretation of the method, and suggests the need for complementary strategies more closely related to practice. Especially in the context of organizations, where goals reflect ideals to be tempered against a backdrop of uncertainty, ambiguity, and risk, means-ends analysis can be seen to be but a simplification—a convenient way to frame what in practice may well be a fluid, elusive circumstance.

Newell & Simon (1972) set forth means-ends analysis as the main method of their general problem-solving strategy, an approach applicable especially in situations in which the content domain is unfamiliar.

Problem-solving mechanisms could be applied independent of knowledge of the task environment. Newell & Simon characterized the means-ends approach thus:

1. If an object is given that is not the desired object differences will be detectable between the available object and the desired object...
2. Operators...can be used to try to eliminate differences between the objects to which they are applied and desired objects...
3. Some differences may prove more difficult to affect than others.

It is possible, therefore, to try to eliminate "difficult" differences, even at the cost of introducing new differences of lesser diffficulty. This process can be repeated as long as progress is being made toward eliminating the more diffficult differences (p. 416).

Critics of this approach to problem-solving point out that it suffers the disadvantage of not being premised on a knowledge base. Gick (1986) contends that "means-ends analysis does not foster the learning of problem states and associated moves that will result in a new state" (p. 109). The problem-solver is not required to draw on relevant schemata, nor is he/she able to categorize problem types for future reference. Empirical support for such critique can be found in the work of Sweller and his colleagues on problem-solving tasks in which goals were specified—a prerequisite condition of means-ends analysis.

Sweller & Levine (1982) approached their work on the premise that:

While the use of means-ends analysis does not exclude the possibility of learning, the two are independent. It is theoretically possible for a problem-solver to attain the goal by means-ends analysis and yet to learn absolutely nothing concerning the problem structure (p. 464).

They conducted a series of experiments in which subjects were required to trace maze patterns in which the finish point was presented either specifically, or in general terms. The trend of the results was that knowledge of goals appeared to impede goal attainment.

Under the conditions effective in the present experiments, we paradoxically found that the more problem-solvers knew of the goal state, the less they learned of the problem structure during the solution process (p. 472).

In a separate work, Sweller, Mawer, & Ward (1983) showed in a series of finger maze problem experiments in which the specificity of goals was varied, that removal of specificity led to the enhancement of schemas appropriate for the problems at hand.

Expertise was acquired more rapidly if problems were presented with nonspecific rather than specific goals (p. 659).

They surmised that:

A problem-solver who is attempting to reduce differences between his or her current problem state and the goal may not be processing those aspects of the problem structure required for expert problem-solving. He or she may not be attending to those features that allow categorization into convenient problem types and to which particular solution steps can be applied. Means-ends analysis can operate perfectly without the acquisition of these schemas. Similarly, the development of an adequate representation of essential components of problem-solving...may be retarded if a large segment of processing capacity is devoted to reducing differences between current problem states and the goal (p. 659).

Results such as these raise questions about the validity of the discrepancy model, a means-ends model, as the primary needs assessment strategy of HRD. They suggest that its use may not support the building of expertise. Taken together with the fact that, in any instance, actual needs assessment situations do not always meet the criterion of goal-specificity that the model requires to be effective, its deficiencies become doubly apparent.

Expert-Novice Problem-Solving. Experts solve problems differently and more efficiently than novices, and for this reason, it is important for their methods to be studied and incorporated in HRD practice. A criticism that could be leveled at the discrepancy model is that being a novice strategy, it is not likely then to lead to the development of expertise in needs assessments. This point is better made by comparison of expert and novice problem-solving behavior.

The consensus in the research literature is that experts tend to solve problems by activating schema for the problem type. They tend to use a "working forward" strategy. Novices on the other hand, not possessing relevant schema, must resort to search strategies and must

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"work backward." Means-ends analysis (and hence the discrepancy model) is a "working backward" strategy. Experts do not, like novices, engage in general search. Instead, they invoke schema to find an appropriate solution strategy. For example, given a problem situation on a chess board that can lead to checkmate in a few specified moves, a novice chess player would tend to work backwards from the goal of mating the king through a set of sub-goals until he/she is able to find the solution. An expert player on the other hand would likely have confronted a comparable problem situation before, and would have a store of solution procedures from which an appropriate strategy could be called upon. He/she would thus move efficiently from the current position to the mating position without recursive intermediary steps.

Simon & Simon (1978) found that expert physics problem-solvers, unlike novices, were able to work to a solution from a set of givens. They had a higher propensity to "know what to do when." They worked forward from known information by choosing equations containing the given, and solving for unknowns until the goal of the problem is found. Novice physicists, on the other hand, worked from equations that contained the goal, setting sub-goals of finding further unknowns. Sub-goals triggered further equations to solve for new unknowns.

Similar findings were reported by Larkin, McDermott, Simon, & Simon (1980) who observed that expert physicists appeared to possess "physical intuition." According to Larkin *et al.*:

> The expert is not merely an unindexed compendium of facts, however. Instead, large numbers of patterns serve as an index to guide the expert in a fraction of a second to relevant parts of the knowledge store. This knowledge includes sets of rich schemata that can guide a problem's interpretation and solution and add crucial pieces of information (p. 1342).

Chi, Feltovich, & Glaser (1981) showed that expert physicists held problem schemata that allowed them to categorize problems according to solution principles. Novices, on the other hand, categorized problems according to literal or surface features. For example, where novices would group problems together if they contained an inclined plane, experts would do so if they required the same principle (e.g., the law of momentum). Experts "perceived more" in problem statements than did novices.

Patel & Groen (1986) found that when their diagnoses were accurate, expert physicians invariably had used inductive, forward reasoning from data to diagnosis, as opposed to deductive, backward reasoning, from diagnosis to data. Where diagnoses were incomplete, subjects consistently had used backward reasoning strategies.

Johnson (1988) found that expert troubleshooters had a "deeper understanding" of a technical system than did novices. Because their knowledge base was organized, they were able "to efficiently access their knowledge and match the information cues they observed with those in their knowledge base" (p. 50).

Smith and Good (1984) concluded from their study of expert and novice problem-solvers in genetics that "expertise in genetics problem-solving is a continuum rather than a dichotomy" (p. 907). Successful novices in their study employed problem-solving strategies that were "less content-specific but nonetheless powerful" (p. 907). The expert-novice dichotomy appeared to be premised on the relative difficulty of the problem chosen. This is not to deny the role of content knowledge in problem-solving. According to these authors:

> A certain amount of relevant genetics knowledge is clearly prerequisite to problem-solving success while additional knowledge contributes to increased efficiency and ease of solution. A lack of appropriate knowledge and the application of misconceptions hampered unsuccessful problem-solvers (p. 907).

It seems evident from the research reviewed above that means-ends analysis is not associated with expertise in problem-solving. Rather, it appears to be the preserve of novices—those who are unfamiliar with the content domain in which the problem to be solved is located. The main argument against means-ends analysis appears to be that it does not facilitate schema building, a prerequisite for the development of problem-solving expertise. While there is evidence that some novices also utilize problem-solving strategies that lead to efficient, expert-like solutions, it seems clear that the problem-solver must possess some critical, minimum level of domain-specific knowledge in order to be effective. Therefore, that the literature of the field of Human Resource Development stands so squarely behind the discrepancy model is troubling, for it means that there is tacit agreement that practitioners of the field will perpetually be novices, operating in content areas outside of their experience and for which they have no organized knowledge base.

The evidence reviewed here indicates that the orthodox way of looking at needs assessment does not reflect the behavior of successful practitioners in fields beyond Human Resource Development. Means-ends analysis appears to find expression more "in the breach" than in the practice, where expert practitioners are concerned.

Empirical Difficulties

Above, we critiqued the discrepancy model in terms of theory and research relating to expert problem-solving. Here, we look at empirical difficulties, fashioned largely from the reflections of one of the authors on several first-hand needs assessment experiences. In general, the theme of this aspect of our discussion is that the discrepancy model fails to capture adequately the pragmatics of needs assessment. As Rossett (1990) points out, obstacles to successful diagnosis, prescription, and remediation of human performance-related problems

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abound in organizations. Getting the discrepancy model to fit could be treacherous.

An appealing feature of the model is its apparent simplicity. The need is simply the difference between the desired state and the present state. However, in practice, this simplicity turns out to be deceptive; many unforeseen difficulties await novices as they venture to solve real organizational problems.

What the theory cannot depict adequately is the fluid nature of organizational life, and the difficulties that these can present to the practitioner. We highlight the following categories of difficulties: 1) the uncommon nature of the core needs assessment questions, 2) employee fears and misconceptions about the process, 3) logistical problems, and 4) change and uncertainty.

1) Uncommon questions. One of the surprises for needs assessors is the number of firms that have difficulty answering the basic questions of a needs assessment: What is the present state? What is the desired state? When things are going well for an organization, no one asks these questions. Since many firms that request needs assessments are good companies trying to get better, the basic needs assessment questions do not always quite seem to fit.

Where there are difficulties in a firm, specification of the present state is often imprecise; so too is specification of goals. There may be documents, such as an annual report for stockholders, accident reports, training records, and daily production printouts that describe many things about the present state of the organization. However, the trick is to describe the present state in relation to the business problem that is the impetus for the needs assessment.

In one actual case, a manufacturing firm requested a needs assessment because of the need to reduce the amount of time during which a packaging line was shut down for the transition between products. For example, when there was a sales need for 8-ounce rather than 12-ounce packages, the packaging line had to be shut down for the changeover. When asked about the present state of the changeover process, responses varied from one supervisor to the next. Some viewed the changeover in terms of the time from shutdown to startup. Others wanted to refine this measure by converting it to person/hours lost, since various packaging lines had differing numbers of workers involved. Still others suggested converting all measures of down-time to dollars. This could be done if consideration were given to all inputs, the value of lost production, and the variability among lines. This was not a job for a novice needs assessor. The discrepancy model could not deal with the fluidity of the problem presented.

In addition to the difficulties of measuring the present state, the description of the desired state lacked validity. Unreasonable expectations, such as the stated desire for zero down time, were expressed. However, there were those who expressed no expectations except that down time be reduced. This in fact became the operational objective, which was to reduce down time in packaging as much as possible by increasing the productivity of the line mechanics through training and other interventions. Companies have a rough sense of what is possible given the resources they have on hand. They wish to optimize the use of these resources as best they can. A needs assessment that follows orthodox rules to the letter can miss this basic point, thereby wasting much time chasing after something ultimately unattainable. We suspect that this kind of expertise can come only by practice, or, at the very least, from instruction on needs assessment that reflects grounded (practice-based) theory.

2) Employee Fears and Misconceptions. The questions posed during a needs assessment may constitute an unwitting threat to people in the organization, due to some common misconceptions about the process. One nettlesome misconception is the belief that needs assessment is an adverse evaluation of personal effectiveness. When this misconception is present, an explanation of the purposes of the needs assessment will not necessarily remove doubts. Some workers may be distrusting because they believe that they have been dealt with in a deceptive manner before. Others may fear that the process is part of a larger scheme that will have a direct negative impact on their well being. An example of this would be the suspicion that a takeover of the company by another firm is imminent. Employees may have seen previous analyses that resulted in a reduction in the number of jobs or in the de-skilling of existing jobs.

Needs assessors may not fully appreciate the ego involvement of those whose organization is being assessed. They may heighten fears by tending to talk more about the problems of the organization than they talk about the opportunities. People who could provide primary information for a needs assessment may become defensive and reluctant to reveal what they know about the problem being investigated. On the other hand, others may see the needs assessment as an opportunity to promote a pet solution or a chance to get even for some past wrong.

Issues such as these are not quite accounted for in the discrepancy model, which presents a somewhat sanitized view of the real world. What appears to be needed in the discourse, and what should infuse the pedagogy relating to needs assessment, is a view of the world through the eyes of the expert practitioner.

3) Logistical Problems. In most organizations, people are not able to set aside their regular responsibilities for the purpose of participating in a needs assessment. Rossett (1990) captures this problem in her description of the case of a potential subject matter expert, who, being new to the job, does not have the time to meet with the course developer.

Needs assessors have to accommodate the schedules of those responsible for production. For example, in one firm, scheduling needs assessment interviews or administering questionnaires during the last week of each month was not possible because all employees would be occupied with deadlines for quotas during that week. In almost every case, there are limits on the availability of

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those who are information sources for a needs assessment. Sometimes those who are the best sources are the least available. This usually does not imply any unwillingness to cooperate or any reduction in the priority of the needs assessment. It does mean, however, that the needs assessor must be willing to work within constraints dictated by the normal day-to-day rhythms of companies.

Working within the schedules of managers and others in production units will usually upset the orderliness of the information-gathering process that is suggested by the discrepancy model. For example, when a manager is available for one hour, and will be away from the firm and otherwise unavailable for the next month, it may be necessary to ask about present conditions, gain verification for information gathered from another source, identify in-house clients of the work group, and gain permission to distribute a questionnaire, all within one meeting. In other words, because of the competition for the time and attention of company personnel, the needs assessor is required to carry on several steps of the process simultaneously. To the novice, this frantic state of affairs can seem bewildering.

From time to time, individuals who are experienced in needs assessment have to review the process to identify the steps for which there is enough information, those steps that are partially completed, and those that are yet to be done. The means-ends model can be helpful in doing this, but it requires almost mechanistic detailing of a process that at best is ill-structured.

Experienced needs assessors may also respond to characteristics that are not represented in the discrepancy model, such as the credibility of the source of information or the time frame in which it was received. They factor the integrity of the information and the cost of obtaining it in their assessment of benefits. They may rely less on the model and focus instead on whatever information appears to lead along a path that solves the problem.

Most frustrating of all, is that even when a needs assessment is technically perfect it may never find its way to a sponsor in the company who has "legitimate organizational authority" to act upon it (Robinson & Robinson, 1989, p. 39). This is the critical political aspect of organizational problems—an aspect the discrepancy model cannot adequately address.

4) Change and Uncertainty. Beyond the logistics which attend needs assessments, there is another set of organizational qualities that may invalidate the use of the discrepancy model even more than those already mentioned, namely, the rapid rate of change that is a part of the life of most companies. The rate of change makes it difficult, and perhaps foolhardy, to describe present and desired conditions when analyzing organizational problems. Under conditions of change, there are no fixed conditions, only moving targets. Ambiguity prevails. Present conditions are fleeting. Predicting future desired states with any precision may be impossible because change has meant sailing in previously uncharted waters.

The full potential of new technology, for example, may be an unknown. An organization may describe a desired condition based on a new computer system. This desired state could change quickly as it is realized that the computer system will fulfill other purposes that had not been a part of the original planning. Some companies have experienced something similar with the introduction of total quality systems. As they have gained experience with them, they have moved their goals forward to higher levels of performance. The lesson here is that companies in the midst of a change process will require a needs assessment approach that can tolerate ambiguity. This suggests the need in such circumstances for alternatives to the discrepancy model, alternatives that we argue, must be based on expert practice.

The Nature of Successful Problem-Solving

Little is known about how expert needs assessors do their work. But such evidence will be required to allow the formulation of an alternative, practice-based model of needs assessment. We can anticipate the outlines of such a model by examining the evidence on expert problem-solving from non-HRD fields. In the previous section of the paper, differences between expert and novice problem-solvers were examined to point to shortcomings in means-ends analysis. In this section of the paper, we look again at expert problem-solving, drawing on research from diverse fields, to understand its essence and the conditions that support its expression.

Offering a perspective from the discipline of biology, Smith (1991) surmised that successful problem-solving is critically affected by *external* and *internal* factors. An external consideration would be "the domain from which the problem is drawn, and the form in which the problem is presented" (p. 8). People are more adept at solving problems that are within their area of expertise. Success is also affected by the social environment of the problem-solver. Internal factors include measures of affect (e.g., self-confidence, experience in both general and domain-specific problem-solving (especially in the latter), domain-specific knowledge, and general problem-solving knowledge.) Smith believes that good problem-solving requires the use of forward reasoning and domain-specific procedures for standard problems and 'weaker' procedures, such as means-ends analysis and trial and error, for problems outside of the domain of expertise.

Offering a view from medicine, Groen & Patel (1991) agree that successful problem-solving is associated with forward reasoning. In seeking to fashion a unified theory of problem-solving that transcends domains, they agree first that:

> Experts readily comprehend new information and integrate it into their existing knowledge base. This results in an enhanced ability to recall and to chunk information. It also results in the ability to cope with routine situations rapidly and efficiently by the use of forward reasoning through a limited problem search space (p. 39).

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These authors go on, however, to say that this generalization "breaks down as the situations become non-routine and the level of expertise decreases" (p. 40). They report an absence of forward reasoning by experts in cases where diagnoses were found to be wrong or incomplete. Further, in complex "though still routine" clinical cases, they find that experts use "backward reasoning" when they explain facts that are not directly relevant to the main diagnosis. These authors argue that from an educational perspective, a crucial need is for the development of a good theory of novice reasoning. Since "novice rules do not map onto expert rules" (p. 40), any theory of novice problem-solving that is developed should "specify the transition mechanisms that allow the student to progress from one level to another" (p. 42). They conclude that rather than focus on the problem-solving approach, perhaps it might be more useful to focus on "testing and pondering the adequacy of one's explanations" (p. 43).

Also from the field of medicine, Elstein, Shulman, & Sprafka (1978) found, from a study of experienced physicians, that their initial problem formulations, upon being presented with a case, appeared to be more often "a process of direct associative retrieval, than one of strategy-guided search" (p. 197). This finding meant that problem-solving was not a transferable process, from case to case. Reflecting on the implications of this finding for medical education, the authors opined that:

> There is a general mental process common to all medical problem-solving. However, the effectiveness with which this process is mobilized in any particular case depends on knowledge in a particular domain (p. 292).

They went on to state that the concept of a common problem-solving process for solving "any and all" medical problems "depends upon retrieval of relevant content from a well-organized store of long-term memories" (p. 292). For the medical education curriculum, which was case oriented, it meant that the instructional value of case studies was that they were a vehicle for building schema. According to the authors, medical graduates could not claim competence beyond cases they had encountered in the curriculum. Expertise came from having a sufficiently large knowledge base of cases to be able to invoke routinized procedures. Medical expertise rarely featured "dramatic creative insight."

Agreeing with the basic thesis of Elstein *et al.* (1978), Perez writes that successful troubleshooting requires that experts acquire declarative knowledge (knowledge of facts) and procedural knowledge (knowledge of how to use rules, principles or concepts). The troubleshoooter "must have some knowledge of the system and of troubleshooting algorithms or procedures" (p. 118). As to the requirements necessary for the training of troubleshooters he argues that:

> The teaching of troubleshooting procedures must be preceded by the teaching of facts, concepts, rules, and principles of how the system/equipment works (p. 118).

Perez goes on to argue that troubleshooting expertise is enhanced by opportunity for practice. The novice starts with a shallow understanding of system behavior. Troubleshooting expertise evolves with time.

> Expertise evolves with the development and use of a mental model of the system that represents the functional and structural properties of the device, a set of heuristics for fault isolation, and executive control strategies for monitoring and evaluating the effectiveness of these strategies or plans for troubleshooting (p. 138).

Perez argues that to arrive at a unified theory of successful problem-solving in the domain of troubleshooting, it is necessary first to "define what skills, knowledges, heuristics, and cognitive processes transfer from diagnosis and troubleshooting to other situations" (p. 147). Trainees appear to bring a set of strategies to troubleshooting situations. They select one on the basis of the similarity of the problem on hand to prior problems. To gain expertise they would need to be taught "executive control and monitoring practices" (p. 148).

For Perez, to understand and teach general problem-solving, therefore, requires an understanding of how:

> domain-dependent (local) knowledge and domain-independent (global) knowledge are to be combined with heuristics, executive control, and self-regulatory processes (p. 148).

Unlike Groen and Patel (1991) who, as indicated previously, argue for a theory of novice problem-solving on the grounds that expert problem-solving might not be instructive in understanding novice logic, Perez argues that knowing how experts come to terms with declarative and procedural knowledge will be instructive as to how to "order and structure the content of training (in troubleshooting)." Also addressing the domain of troubleshooting, Foshay (1988) suggests that experts use a symbol system when diagnosing a problem. Knowledge of the appropriate symbol system is the first level of the expert's knowledge domain. This system should be analyzed if it is to inform instructional development. But how to represent knowledge in a cognitive task analysis remains to be understood.

Setting forth an example from the game of chess, Horgan (1988) describes the nature of successful problem-solving in terms of the vast schemata the experts have to call upon and the efficiency with which they arrive at their decisions. The process includes the following steps: 1) sizing up the problem, 2) generating alternatives, 3) evaluating alternatives, and 4) evaluating the outcome.

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How Does successful problem-solving in business and industry differ from what has been described above? We get insights from studies of management expertise (Lash, 1988; Isenberg, 1984, 1986). According to Lash, the literature on management expertise "is almost completely silent" on whether managers actually solve problems rationally. He notes that the typical management problem is ill-structured. His research has shown that where a problem was clear, the education of both novices and experts predicted problem-solving success. Where the problem was more ambiguous, the critical predictor of success was managerial experience. Intellectual competencies did not predict problem-solving expertise. Novices approached problems in a piecemeal fashion. Experts used more intuitive approaches.

Isenberg (1984) posits that intuition plays a central role in the way in which managers deal with problems:

> They use intuition to sense when a problem exists...to perform well learned behavior patterns rapidly...to synthesize isolated bits of data...as a check on the results of more rational analysis...(and) to bypass in-depth analysis and move rapidly to come up with a plausible solution (p. 86).

Managers deal with a multiplicity of problems simultaneously. Problems compete for priority. Generally, they first define problems to their taste. Which problem is chosen to be worked on depends on how easy it is to solve. According to Isenberg:

> Very shortly after perceiving that a problem exists, managers run a quick feasibility check to see if it is solvable. Only if they find it is solvable will they then invest further energy to understand its various ramifications and causes. In other words, managers tend not to think very much about a problem unless they sense that it is solvable (p. 87).

In a study of twelve general managers and three college undergraduates, Isenberg (1986) found that the former commenced action sooner when presented with a case. They tended to act on incomplete information and were more intuitive than analytic. Their own experiences substituted for additional case data. The latter took longer to fashion their solutions, tended to generalize from the specific facts of the case, and were more likely to request additional information. Isenberg utilized the concept of "opportunistic thinking" to describe these results. This notion holds that people develop economical ways of making maximum use of data when such data are perceived to be scarce and valuable. They will not expect answers to all questions they have. Such thinking leads to the employment of higher order processes. Isenberg suggests that:

> ...once managers are engaged in the process, they will act and plan action rather than continue to verbalize or to analyze situations in a pedestrian way (p. 785).

Scandura (1981) set forth the Structural Learning Theory (SLT) Model as an explanation of the nature of successful problem-solving. The theory behind this model is that what the person who is confronted with a problem-solving situation does depends on his/ her a) knowledge of procedures (or algorithms) and structures (or propositions), and b) general (processing) capacities which "apply universally in all problem-solving" (p. 140). Scandura posits the notion of "holistic skills," which master performers acquire over time by "introducing shortcuts into the problem-solving process" (p. 145). Expert performers are given to making "insightful estimations," which allow them to evaluate a problem situation far more quickly than neophytes can. The knowledge of the master performer is absorbed in complex, higher-order rules. SLT states that by applying these rules, the performer knows when to invoke this or that procedure. He or she can, in the process, develop new, even more efficient rules. The transition from neophyte to master, according to Scandura, comes with practice.

> Clearly, by gaining experience and going over greater and greater varieties of problem-solving situations, the neophyte gradually learns more and more efficient ways of dealing with those situations (p. 147).

Scandura's synthesis captures the essential elements of our review of the nature of problem-solving. Whatever the field of practice, expert practitioners attain that status mainly through their possession of domain specific knowledge acquired from wide and varied practice, and the ability to routinely draw upon solution strategies as needed. Troubleshooting, for example, popularly considered to be a generic skill, is premised largely on content knowledge and practice. A troubleshooter of electronics problems must understand electronics deeply and widely. An expert physician would have seen a large number of different types of cases. An expert needs assessor would, by this logic, have had wide and varied experience in so doing. We have been contending that knowledge of the problem-solving strategies of expert assessors could provide an important complement to the discrepancy model. Research that can capture such knowledge is now lacking. We propose that such research should become a high priority in the field of HRD.

Discussion

We set forth in this article to consider and reappraise the discrepancy model, the primary way that needs assessments are conducted in HRD. With support from the literature on problem-solving and reflections based on practice, we have sought to show that the great store which the field of HRD sets in the model might not be

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justified. It is instructive for novices, but is of limited concrete help to practitioners already in the field. Organizational problems are too ill-structured and ill-specified to allow easy characterization based on an evaluation of means and ends.

By weight of the theory and research literature, it appears that successful problem-solving depends on the possession of domain-specific knowledge and related schemata, the result of wide and varied exposure to problem situations. Expert problem-solvers have an array of solution strategies to call upon routinely. But experts were once novices, and at that stage their problem-solving approaches were more tentative. Novices need a way to conceptualize problems, and for that, the means-ends (discrepancy) approach is appropriate.

While means-ends analysis is useful for the novice, it is not instructive enough for the practitioner in the field. The leap from the model to practice is hazardous. Thus, it is untenable that the discrepancy approach should be the sole model through which the field diagnoses needs. Yet, this model is without rival in the literature of the field. Expert needs assessments find little space in the literature.

Perhaps this is due to an understanding that HRD practitioners can not possibly be expert in all fields for which assessments are desired. HRD practitioners are generalists. To remedy their lack of domain-specific knowledge, they must be taught to work in tandem with subject-matter experts (SMEs). The logic here might be that the assessor brings expertise in the process of assessment—expertise that SMEs lack. By working together, a synergistic effect is realized, leading to the upgrading of the capability of both partners through the expertness of their counterparts. However, as we have discussed earlier in this article, the logistics of needs assessments sometimes preclude access to SMEs who could make a difference. The SME who can really be of assistance may be too busy. And what if he or she is uncooperative or not readily forthcoming? Process competence alone appears insufficient to justify the HRD practitioner's claim of expertise.

Another model of practice might be for the needs assessor to become expert in the fields in which the needs assessments are being conducted. The feasibility of this suggestion is related to the specificity of the categories of practice. For example, one may have expertise in the field of manufacturing but not be au courant with the specifics of electronics manufacturing. It seems, however, that the closer one's formal training and experience is to the organizational problem one is attempting to solve, the greater would be the likelihood that one would possess the instincts needed to evaluate potential solutions. We shall return to this issue.

What is lacking in the literature of the field is discourse based on expert practice. We do not know how expert HRD practitioners actually approach and solve performance-related problems. What are their methods? What shortcuts do they take? What questions do they ask? Because of this dearth of evidence, the discrepancy model predominates, by default. Those hoping to become professionals in the field are, as a consequence, fed an unbalanced scholastic diet predicated on discrepancies and nothing else, even though all of the signs from other domains of practice point to the feasibility of alternative conceptualizations.

Implications and Conclusion

We have contended that the discrepancy model conveys but a limited picture of the practice of needs assessment. Therefore, the major implication of the views we have presented here is that discourse on needs assessment needs to be broadened. There is room for alternative approaches. Particularly missing from the discourse is a research-based conception of expert practice. More discussion is needed on how needs assessment is conducted in the field. We know from Saari, Johnson, McLaughlin, & Zimmerle (1988) that a majority of firms do not use formal needs assessment in their human resource decision-making process. Since we cannot assume that firms are irrational and that they merely throw money after training, we should be interested in the logic that practitioners use in these instance. How do they arrive at training decisions?

An important implication of our discussion here has to do with the formal education and training of the HRD practitioner. What background should the novice practitioner possess at minimum? What should the practitioner's college preparation look like? Should it include discipline-specific requirements prior to HRD-specific training? For example, should HRD students first be schooled in some generic area or cluster such as engineering, or marketing and sales, or manufacturing, or computer information systems, or agriculture or accounts? And should their preparation assume eventual practice in firms that fall under the broad head of their specialization? That is, those with engineering preparation would practice primarily in such firms, those with accounts training likewise, and so on. What should the HRD graduate know?

If HRD practitioners are to evolve from being process specialists (meaning that they lack domain-specific knowledge, and in this regard are operating at the novice level) to subject-matter specialists, the shortest route via which they can do so would be through their academic preparation. HRD practitioners who work in a domain in which they possess deep subject-matter knowledge may find that the questions they ask when attempting to solve organizational problems might vary from what the textbooks suggest. That is, the approach they take to solving problems may not be the means-ends, discrepancy approach at all.

What these speculations suggest is that by broadening the discourse, the field of HRD will be compelled to come to terms with essential questions having to do not only with the nature of practice, but with the little discussed question of the education and training of practitioners.

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NEEDS ASSESSMENT LITERATURE

Source: "Needs Assessment: Perspectives from the Literature," by Catherine M. Sleezer, *Performance Improvement Quarterly*, Vol. 5, No. 2 (1992), pp. 34-46

Careful analysis of an organization's needs is the first step in developing relevant programs for improving performance, says the author. And to give the reader an orientation to this subject, she examines the various approaches to needs assessment that have been presented in the literature. The first part of the article defines the terms used in describing the process of needs analysis, beginning with the word "need" itself. Other terms defined in the article are: needs assessment, needs analysis, front-end analysis, and performance analysis. The second section is devoted to the various models of needs assessment, and the different views held about the needs assessment process. The author separates models for analyzing needs into 2 categories: (1) models that assume that the performance or training need has not yet been identified and (2) models that assume that the need has already been identified. The author observes that little has been written about the results to be achieved through implementing a needs assessment model and how those results should be evaluated. She discusses 16 types of information that can be garnered through the assessment process including: content activities most often associated with a given process or job, the factors affecting overall organizational or system performance, etc. (AN43)

SKILL-BASED JOB ANALYSIS

Source: "Skill-Based Job Analysis," by Kathleen Kappy Lundquist and David P. Jones, *Technical & Skills Training*, February-March 1992, pp. 7-12

While job analysis is often viewed as a laborious, time-consuming, narrowly-focused exercise that illuminates the obvious, the authors present a job analysis procedure which helps trainers see what types of training are needed now and in the future. They present a skill-based job analysis taxonomy which divides jobs into 55 skills. Under "perceptual skills," for example, are found "checking," "inspection," "monitoring," "controlling," and "spatial visualization." For each of these 55 skills, there is a sheet which briefly (1) defines the skill, (2) rates the importance of this skill to effective job performance, and (3) rates the varying skill levels required for effective job performance. By shopping through the various skills, job analysts can determine which skills are needed for each job, and they can give approximate ratings for each skill concerning its importance for the present and future. The authors note that a one-day training program introduces analysts to the system, followed by participation as a co-facilitator during an actual job analysis in a group format using company job experts—trainers, supervisors, or managers who are familiar with the job's requirements. The data that result from this analysis are used to produce a profile of a job's skill requirements. Families of jobs can be identified for which the same selection standards, training curricula, or training certification measures might be designed. The resulting profiles also can be used to review the training curricula offered by internal sources or outside suppliers, say the authors. (AN44)

TASK- AND ABILITY-BASED JOB ANALYSIS

Source: "A Taxonomic Approach to Integrating Job Analysis with Training Front-End Analysis," by Arthur L. Korotkin, *Performance Improvement Quarterly*, Vol. 5, No. 3, (1992), pp. 26-34

This article examines 2 questions relating to training effectiveness evaluation: (1) Are the appropriate and needed knowledge, skills, abilities and other characteristics (KSAOs) being trained? and (2) Do the skill levels obtained meet the minimum requirements of the job? After posing these questions, the author presents an integrated task analysis procedure that must be developed to answer them:

1. Develop a preliminary list of tasks performed on the job under study.
2. Collect data from job incumbents on the tasks they perform and the KSAOs they perceive as necessary in performance of those tasks.

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3. Identify the KSAOs actually required to perform each task.
4. Involve course designers, training personnel, and subject-matter experts in reviewing the new front-end analysis information to determine its congruity to existing job analysis data and training program content.

The author gives an example of how he used this approach in a feasibility study for the Army. He also lists examples of ability definitions, illustrates a task importance rating scale, and presents a flow chart of the process of task/ability-based job analysis. (AN45)

3 PERSPECTIVES ON NEEDS ASSESSMENT

Source: "On Target: Needs Assessments and Organizational Goals," by George Kimmerling, *Technical & Skills Training*, May-June 1992, pp. 26-30.

When done properly, needs assessment can reveal deficiencies that training is ill-equipped to remedy and it can help weigh training needs against scarce corporate resources or competing objectives. So say the training professionals interviewed in this article: (1) Roger Kaufman, professor and director of the Center for Needs Assessment and Planning, Florida State University, (2) James E. Wallace, director of training and development at Newport News Shipbuilding, and (3) Joe Walker, manager of education for Wal-Mart Stores, Inc. According to Kaufman, needs assessment begins with asking 2 questions: (1) Are desired performance standards being met, and if not where is the gap? and (2) Will closing the gap contribute to the other production systems and to larger organizational goals? If the answer to question #2 is "no," Kaufman says, then not only the training, but the job itself can be eliminated. Wallace adds that needs assessment must begin with an understanding of where the organization and its key players are headed in the long and short term. He finds it helpful to use videotapes of expert performers and managers, and he relies on the decision-making process outlined in *Analyzing Performance Problems*, by Mager and Pipe, when interviewing managers about performance shortfalls. A flow chart illustrating this process is included to clarify the steps involved. Maintaining close contact and regular dialogue with line management is also essential, Wallace adds. Wal-Mart never conducts "pure" scientific assessments, Walker explains, and it uses none of the standard instruments for identifying performance weaknesses. Instead, the company relies on direct satellite computer links with each of its stores for regular surveys of associates' performance via the electronic systems that run every store's operations. Through carefully planned questions, he adds, Wal-Mart can initiate specific feedback on possible problems and identify specific regions where training is needed. Store managers are responsible for ensuring the completion of a survey which provides a wealth of information for all levels of management and gives the training department insights to help associates adjust to changes in their jobs. (AN46)

B. INSTRUCTIONAL DESIGN

EDUCATIONAL DECISIONS AND RISK MANAGEMENT STRATEGIES

by Leslie Moller and Cathy McDermott

During the development phase of an education program an adult educator must make decisions regarding how the program will be designed and developed. As with most occasions where options exist, a choice is accompanied by a risk. A risk is the chance of encountering a negative consequence as the result of a decision to complete or not complete an activity. For example, an adult educator has a higher chance of encountering negative consequences when he or she decides not to assess a learner's motivation than if it is determined why the learner is enrolled in the program.

If a risk is a chance of encountering a negative consequence then risk management is simply a strategy for reducing the possibility that a negative consequence will occur. This article identifies five major decisions, their risks, the consequences, and risk management strategies. These decisions are the quality of the audience analysis, educational needs assessment, level of instructional design, resource allocation, and instructional technology use.

These decisions were chosen on two criteria: frequency and impact. Frequency refers to how often these decisions occur. Based on research and experience, the decisions presented in this article are applicable throughout the majority of adult educational situations and therefore have a high frequency of occurrence.

Impact refers to how a decision may negatively affect a program. As discussed later in this article, the degree of risk varies according to individual situations: however, these decisions probably affect overall success more than anything else.

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Audience Analysis

The first decision the adult educator must make is how much information is necessary for an adequate audience identification or analysis. An audience analysis helps the adult educator to "picture" and verify assumptions about the participants. An audience analysis should identify the participants' ages, motivations, optimal learning styles, reading comprehension levels, education, cultural styles, prerequisites knowledge mastery, end result expectations, and time availabilities.

The determination of "who the audience is" becomes a risk when assumptions, rather than research, are the major source of information. Assumptions risk providing incomplete and/or incorrect audience identification. When the assumptions about the participants are incorrect, the consequence is delivering a program that may not match the participants' learning abilities. Specifically, failing to accurately identify the audience can result in the wrong objectives and inappropriate learning plans or materials. The end result—an unsuccessful program.

The methods for decreasing the risks vary from the simple, such as talking to a few random participants, to the complex, such as completing a detailed questionnaire for the entire group. In addition to direct contact with participants, content experts, sponsors, and previous participants can be valuable sources for information.

An analogy to conducting an audience analysis is found within product marketing. Few companies would think about introducing a new product, service or idea unless they had carefully studied their potential customers. The customer information that the analysis provides helps companies fine tune their products and avoid costly mistakes. In a sense, participants are our customers. We need information about the audience to fine tune our product, the educational program.

Educational Needs Assessment

The next decision is how precisely to define the participant's educational needs. The educational need is the difference or "gap" between the participant's present skill, attitude or knowledge levels and the skill, attitude or knowledge levels needed to perform the desired tasks.

As with audience analysis, it is easy to assume that the specific educational needs are known. However, when the assumptions are incorrect there is a risk of directing efforts towards meeting the wrong need and, as a consequence, implementing the wrong solution.

To minimize this risk and prevent the consequence of an inappropriate training program, it would be prudent to conduct a formalized needs assessment. A formal needs assessment should include information gathered from a representative sampling of multiple sources: trainees, former trainees, master performers, managers, content experts, recipients of trainees' performance. The techniques for conducting needs assessment are well described in the literature and our bibliography makes reference to sources for additional information.

Assumptions about a participant's "educational need" can take many forms. One of the most common problems with making assumptions is identifying symptoms of the need rather than the real need or problem. Other types of assumptions can lead to either including extraneous information or omitting critical information.

Consider a hypothetical problem. A company was having trouble when its line managers did not follow mandated safety procedures. It was obvious to the casual observer that the intended participants were not following proper safety procedures, but it was unknown why the procedures were not being followed. The initial assumption was that first line managers did not know safety procedures and that the problem arose from a knowledge deficiency with training being the solution. However, further examination of the need revealed that first line managers did have safety procedures knowledge but did not feel that senior management actually supported the concept. Thus line managers were reluctant to follow safety procedures. In this example, if the real need had not been clarified, a great deal of resources would have been wasted in training people in an inappropriate topic.

Not identifying the audience and their needs may be compared to a doctor prescribing medicine for a patient she or he hasn't examined. Most people would probably be reluctant to accept a doctor's conclusion given that parameter, as should the participant in a training program where the same care was not given in the analysis stage.

Instructional Design

The third design to make in the development of an educational program is how much effort will go into the design of the instruction. There are several methods for designing instruction. These methods entail different possesses of planning, ranging from little to very in-depth planning. Instructional design is the method that most experts agree is best for designing instruction. Instructional design is the process of systematically planning the steps of instruction. This method leaves room for evaluation and change throughout the development of each step. Following the steps of instructional design allows the development of a worthwhile, effective program. Using this process will not only help the design of an effective program, but the process will also let the adult educator know whether or not the instruction has been effective.

Not using a systematic approach for designing instruction becomes a risk when the adult educator assumes that the instruction is effective. In reality, the instruction may be completely ineffective and the adult educator, in not following steps which include the evaluation of the instruction, may believe that she or he has developed a very effective program.

The effectiveness of an instructional program is defined by whether or not the instruction meets well-defined objectives that are based on the needs of the audience. Objectives are the backbone of a solid training program. The entire program—tests, practice, materials, time, etc.—should all be driven by objectives.

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Risk is encountered when objectives are either not stated or not defined properly. When objectives are not clear or not stated, it is impossible to know whether or not a useful program has been developed. Another result of not stating or defining objectives properly may be lack of structure and meaning to the program. The adult educator cannot be sure of specific goals which should be accomplished. This may also leave the trainee without a firm understanding of what she or he should leave the program having accomplished, leading to feelings of confusion and despair and wrong goals being attained.

For example, just as an architect would not start constructing a building without a blueprint, a trainer should not start developing instruction without well-researched and defined objectives. In order to manage this risk, objectives should be explicitly stated. If objectives are clear, the adult educator can then be sure whether or not they are met, and consequently whether or not the instruction is effective.

Another risk of not using the instructional design process is in not building the instruction step by step. In the article, "Trouble-Shooting Your Training Program," it states, "Each step of your program should build on the preceding step" (Birnbauer, 1987). If these steps are not followed, instruction can be founded on flaws that can be extremely expensive and difficult, if not impossible, to change, such as not having the proper activities or formative evaluation that support the objectives. For example, if a builder does not use a level to check to see if the foundation of a house is even, he or she runs the risk of building the rest of the house on a faulty foundation, therefore building a defective house. In not using instructional design, you run the risk of building a defective program.

Resource Allocation

Another decision to take into account when developing instruction is resource allocation. Resource allocation involves brainstorming and carefully examining any and all costs that will be included within your budget to develop instruction. These costs include such things as personnel, maintenance, materials, and development. Planning the allocation of resources is extremely important in developing instructional programs. When an adult educator does not plan out resource allocations, he or she runs the risk of needlessly wasting resources or running out of resources. If the adult educator runs out of resources the instruction will either be incomplete and unusable or constitute less than the desired outcome.

In planning resource allocation, the time of the company, the trainee and other employees should all be taken into account. Time is a resource that is easily wasted when an adult educator takes the risk of not planning allocations. Additionally, it is important to plan to allocate resources beyond that of the front end costs. In not planning resource allocation for more than front-end costs, you run the risk of the instruction becoming quickly obsolete or being unable to update, change or correct the instruction. In his article, "Will You Ever Use Interactive Video?" Judson Smith discusses the fact that you must examine front-end costs because the front-end investment can be substantial. To avoid wasting resources and developing ineffective programs, resource allocation must be carefully thought out and analyzed.

In order to manage these risks, you should perform a training cost analysis. Glenn E. Head, in his book *Training Cost Analysis: A Practical Guide*, identifies the factors that should be accounted for in this analysis. These include such costs as the "lost opportunity cost" of not having that trainee on the job, student costs, instructor costs, instructional development costs, and maintenance costs.

Instructional Technology

Recent developments in hardware and software provide trainers more choices than ever. Choosing the technology or technologies for a program can be a crucial decision not only to a program's effectiveness but also to its longevity. Each technology choice or selection has many advantages, but also many possibilities of risk or failure.

Technology is any medium that is used in instruction. It can be simple, such as a photocopied handout, or complex, such as an interactive touch screen that incorporates a computer and a video disk. Technology selection can be a risk when either the developer of the instruction underestimates the complexity of a technology or lets a type of technology drive the selection. If the technology is inoperable in the instruction, planning and resources will have been wasted. Whenever a medium is chosen for instruction, it is necessary to examine the complexity of the medium. In general, the more advanced a technology is, the more likely it will not work as planned. Simply put, it is Murphy's law applied to instructional technology. How many times have we purchased a new machine that has all the newest features, only to find that no one knows how to use it and those who do not know how to use it find it confusing or frustrating? The machine then gets labelled the office "dust collector." When creating a program you need to assess whether a technology will be resented or inoperable in the instruction.

A smaller, yet still important risk is present when choosing a technology that is new. In choosing a new technology you must be sure that it has been proven effective and that it will not be obsolete. For example, those who made a substantial investment in eight-track equipment or Beta-max now have an outdated medium that is hard, if not impossible, to obtain material for.

The other media selection risk is in developing a program letting technology choice lead instruction. This is dangerous because this tends to lead to valuing the technology more than the students and trainer. Technology can then become viewed as the end-all-be-all, again devaluing the importance of the trainer and the students. Joan S. Mitchell, in her article "The Changing Face of Instructional Technology Centers," states, "Technology

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is not an end in itself, but rather an enhancement or delivery mechanism for the underlying instructional message" (Mitchell, 1990). When choosing technologies make sure you carefully evaluate the situation. Make sure that those using the technology are capable of operating and understanding it. If you are unsure about using a technology, do research on that technology and see if others have been successful in using it on a continuous basis. Experts point out that your choice of technology should always be the simplest and least expensive that will work to meet your program's objectives (Cartier, 1992; Goldstein, 1987-1988).

As stated earlier, objectives should be the driving force behind choosing a technology, not vice versa. If you are deciding on the course content, examining the audience, or creating an educational need through choosing a certain technology, examine whether or not your objectives and needs of the learner are propelling your program or whether you are letting the technology make these decisions for you. Always determine that the technology chosen is the best and simplest to meet your objectives, not something that is a personal preference or overkill. A major risk in choosing technology is deciding on a technology based on what somebody saw at a trade show. Always be extremely careful and make sure the technology meets your objectives.

Degree of Risk

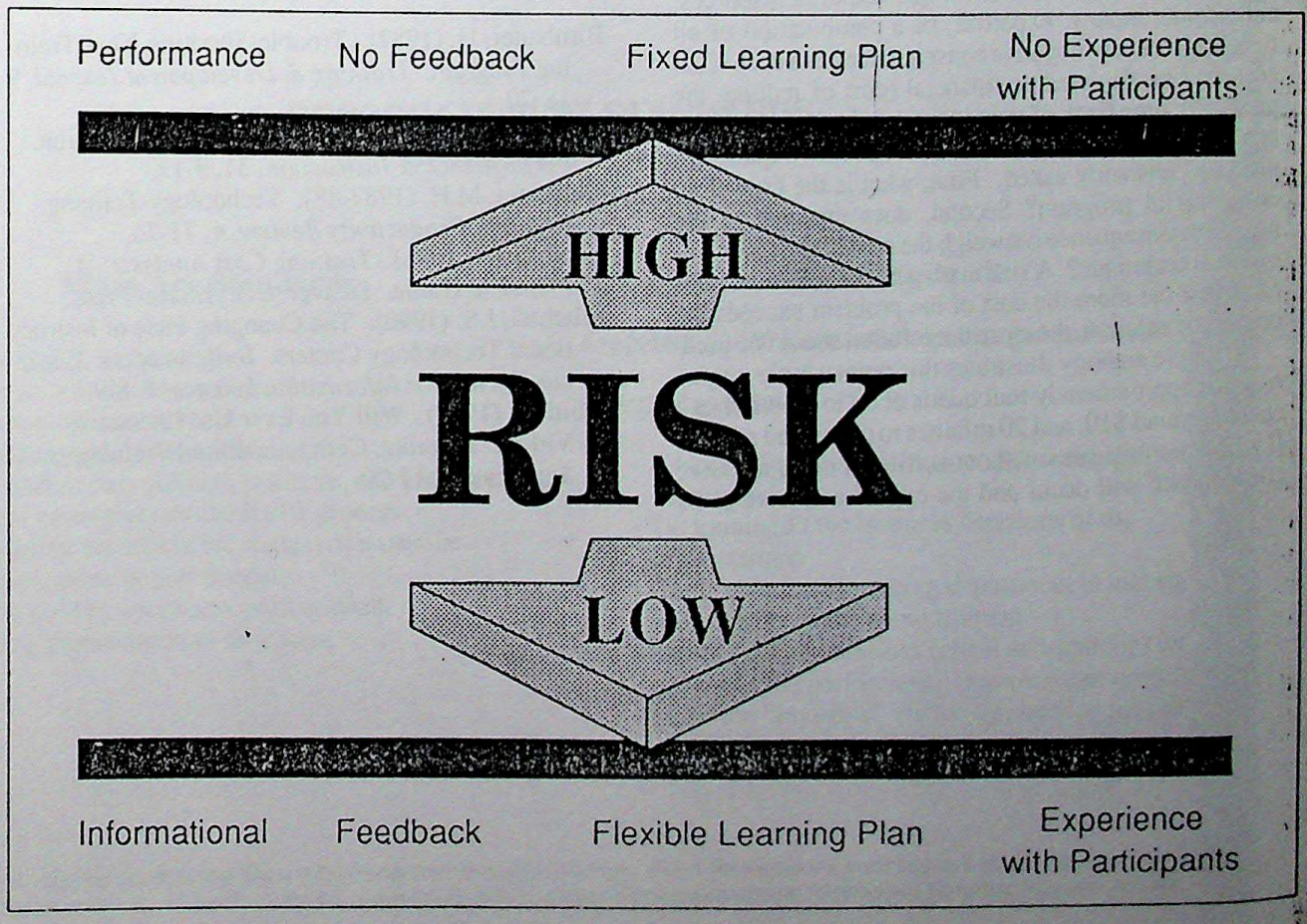
Up to now, risks have been described in a one-dimensional plane. However, before an adult educator can implement risk management techniques, a second dimension must be considered. This second dimension is the degree of risk. There are two parts to the degree of risk dimension: levels and costs.

Earlier, risk was described as the probability that something negative may occur based on a decision to complete or not complete an action. That incorrectly implied that all risks are even. Each adult educational situation has its own risk level. A level is how likely a negative effect will occur. In other words, you might be taking a risk, but how much of a risk. For example, in training a well-known population, it is a lower risk to make some assumptions about the audience than when the audience is unknown. With an unknown audience, not completing a thorough analysis presents a higher level risk, a more likely chance of making an error.

There are four factors to be considered when determining risk level. These are: type of program, feedback availability and responsiveness, delivery method, and previous experience with participants (Figure 1).

High risk factors include situations when the learning outcomes are performance based, there is no immediate

Figure 1. Risk Factors



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feedback, the learning plan is fixed, and the presenter has no previous experience with the participants. Low risks exist when the course objectives are informational, the participants can provide immediate feedback, the learning plan can be adjusted within the program, and there is previous experience with participants.

The higher the level of risk the more a risk management strategy is warranted. For example, compare two different adult education situations. In the first, a live presentation is meant to be strictly informational. The presenter is an accomplished subject matter expert and an experienced facilitator. If the sponsor has made a miscalculation of the audience's capabilities, the presenter can become aware of the problem through feedback and adjust the presentation to a level the participants are comfortable with. The situation would represent a low risk. However, what happens when the live facilitator is replaced by a videotape program? In this situation, the presentation cannot be adjusted and the participants may not have a successful learning experience. This would represent a higher risk level, due to the medium's incapability to respond and adjust. In this latter situation, then it would be appropriate to complete a more comprehensive audience analysis. In the former situation, due to its lower risk, a very detailed audience analysis may not be justified. It is safe to conclude that the higher level of risk, the more risk management techniques are justified and should be applied.

The second part of the degree of risk dimension is cost. Every risk management technique requires resources; either time, money, expertise, or a combination of all three. Also, every negative consequence has a cost. That cost may be depicted as financial (cost of redoing the program), time (lack of trained workers), or status (damage to educator's reputation). Therefore, two questions must be constantly asked. First, what is the cost of an unsuccessful program? Second, does the cost of the negative consequence outweigh the cost of the risk management technique? A risk management guideline indicates that the more the cost of the problem exceeds the cost of the solution, the more the solution should be used.

A simple analogy illustrates this point. A car engine requires approximately four quarts of oil to function, at a cost of around $10, and 20 minutes to check and add oil. If an automobile runs without sufficient oil, a negative consequence will occur and the engine will have to be replaced, at a cost in the thousands of dollars and, at minimum, days of down time. The cost of the negative consequence in this example so far exceeds the cost of the management technique that it would be foolish not to minimize the possibility that the problem could occur.

The same is true of adult education. Often the risk management techniques are rejected because of the time or cost involved, however, the resulting consequence may cost significantly more. When there is a high level of risk with costly consequences, the logical strategy is to minimize the possibility of failure.

Summary

Many adult educators scorn following these risk management steps because they feel that it is more important simply to get the program completed, only to spend hours at a later date correcting the errors that were caused from not taking precautions in the development stages. Using risk management strategies in relation to performing an audience analysis, educational needs assessment, instructional design, resource allocation, and instructional technology will not guarantee a successful program, but will help you avert disasters that can ruin programs as well as trainers.

To use an old proverb, "an ounce of prevention is worth a pound of cure."

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CASE STUDY: SUBJECT-MATTER EXPERTS AS INSTRUCTIONAL DESIGNERS AT ALEXANDER CONSULTING GROUP

Source: "The Accidental Trainer: Helping Design Instruction," by Marie A. Dumas and David E. Wile, *Personnel Journal,* June 1992, pp. 106-110

Many companies rely on their subject-matter experts (SMEs) to train less-experienced employees, these authors say, but there is still no consensus on whether or not these "accidental trainers" actually make the best instructors. In this article, the authors look at 2 week-long training programs offered by Alexander Consulting Group's (ACG) National Training Services. They are taught by subject-matter experts and are designed to boost technical and communication skills among ACG's international clientele. Two elements were deemed essential in guiding SMEs to design their own courses: (1) expertise in designing job-relevant training and (2) a way for them to design training quickly and within their time constraints. ACG devised a plan for job-relevant course design in the form of a guide which focuses on 3 phases: (1) collection of data, (2) analysis of data, and (3) synthesis of results. The instructor uses the guide to interpret skill and knowledge levels in writing objectives, determining course content, deciding on instructional strategy, and choosing and designing visual aids. The authors discuss the importance of job aids and information mapping in ensuring the effectiveness of the program, and they briefly outline ACG's plan for continuous evaluation of the program. (AN47)

CORPORATE ID/PT STANDARDS

by Kenneth H. Silber

What Are Standards

Corporate ID/PT Standards are:

- The written documentation of
- a group consensus about
- an attempt to make uniform
- the philosophy, policies, practices, and criteria of
- all, or some parts, of the ID/PT process
- as carried out within the context of a specific organization, or part thereof
- to be used by competent professionals
- during performance of their jobs.

Why Standards

Corporate ID/PT Standards help an organization do:

Client Management

- Address client dissatisfaction with training department
- Tie training to the business decisions of the organizations
- Guide clients and training department in making business decisions about training
- Identify accountabilities (client and training) for phases of the performance improvement process
- Make the "invisible" visible by showing how the ID/PT process is really done

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Quality Management

- Provide basis for validating on-the-job performance improvement after training
- Allow for quality reviews of products
- Allow department to locate and fix problems in the ID/PT process or products
- Provide a basis on which to measure ID/PT process and/or product against criteria

Productivity Management

- Provide common vocabulary for ID/PT process
- Standardize ID/PT process and/or products
- Define roles, responsibilities, jobs, expectations in the ID/PT process
- Define decision-making authority in the ID/PT process
- Identify skill deficiencies in staff as a basis for developing training

Project Management

- Manage ID/PT process and products
- Measure ID/PT process and/or products against prespecified criteria
- Identify time and costs for process and products
- Facilitate project "hands-offs"

Disadvantages of Standards

Corporate ID/PT Standards can have, or be perceived to have, the following problems associated with them:

Development

- Difficult to build consensus among constituent groups in the development process
- Can be time-consuming (up to 3 person-years) and costly to develop

Implementation

- Reduce flexibility and creativity of individual designers in developing ID/PT products/solutions
- Resistance to use of the standards by designers who "do it intuitively" or "do it another way"
- Rigid adherence to specified ID/PT process even when circumstances call for exceptions
- Adherence to ID/PT process more important than quality of end products/solutions
- Documentation of standards confusing, incomplete, and/or difficult to use
- People trying to apply them without understanding of the business context

Management

- Political fights about who is the "keeper" of the standards, and who is the "standard police"
- Often not reinforced by other organizational processes
- Staff threatened by measurement against criteria, and by identification of skill deficiencies
- Maintaining consensus after developing it is difficult
- Trying to have "untrained" people use standards
- Ongoing update and maintenance of standards is difficult

Results/Advantages of Standards

Those organization using ID/PT Standards report positive results in 4 areas:

Client Satisfaction

- Questioning of organization's values about ID/PT process and products
- Consensus-building about process (document is just by-product)
- Higher client satisfaction with products/processes of training department
- View of training as a business investment
- Clients' acceptance of their responsibilities and accountabilities in the ID/PT process

Quality of Products

- Higher quality ID/PT products
- Better ID/PT project documentation

Improved Productivity

- Increased designer/technologist productivity
- Easier design of products/solutions
- Faster acculturation of new employees/decreased learning curve
- Smoother project "hands-off"
- Better time/cost estimates for process & products
- Better ID/PT project management
- Allows for portability of products/solutions across whole organization
- Clarification of roles and responsibilities within training department
- Team building, peer review, and coaching
- Development/delivery of ID/PT training to designers to repudiate identified skill gaps

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Types of Standards

ID/PT standards can be categorized along 3 dimensions, with 2 possible extremes on each dimension:

Focus

Process

"What does one do during a step in the process," e.g., Step 2 is Design:
- 1st do Task Analysis,
- 2nd do Concept Analysis,
- 3rd do Objectives,
- 4th do Criterion Test,
- 5th do Instructional Analysis,

Product

"What is the output of a step in the process," e.g., Step 2 is Design. Result is Design Document including:
- List of all tasks done on the job, including actions, cues, and tools,
- Concepts required to do the tasks,
- Learning objectives and criterion test which lead to learning and measuring on-the-job performance.

Approach

Algorithm

"An unchangeable sequence of actions to follow in specific situations," e.g., task analysis data is obtained by observation followed by interview;
- Tasks are always displayed in a 4-column table listing: Cue-Action-Results-Tools,
- Test items match objectives this way:

Given	——→	Item Stem
Action	——→	Question
Criterion	——→	OK Score

Heuristic

"A set of guidelines for deciding on actions to take in novel situations," e.g., task data can be obtained by any of items 1 to 3 of valid methods in Carlyle;
- Tasks can be displayed using items 3 to 10 of the task elements that are appropriate for the task;
- Test items must match objectives as closely as possible, with conditions and actions matching the job as closely as possible.

Scope

Full Process

"The entire ID/PT process from initial client problem to an implemented and validated solution," e.g., standards that go from front-end analysis to solution validation.

Part Process

"The parts of the process that a specific training department will do for a client," e.g., graphics standards, test item writing standards, technical writing standards.

Content of Standards

ID/PT Standards can contain all or some of these topics:

Introduction

- History
- Purpose
- Relation to organization's
  - quality efforts
  - project management process
- How to update—who, when, how
- How to use the Standards

Overall ID/PT Process

- Diagram
- Phase/step description

For Each Phase/Step

- How it fits into the total process
- Purpose
- Definitions
- Risk factors
- Key issues
- Inputs—what, who, when
- Action steps
  - what to do, who, when
  - how to do them
- Outputs
  - what, who, when
  - quality criteria
  - formats
- Roles and responsibilities during the phase
- Approvals—process, people
- Job-aids
- Reference to other "how-to" resources
- Time and cost allowed for this phase
- Handling exceptions/unique situations

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Processes for Problem Resolution
Reference to Related Organization Standards Documents
Glossary
References

Formats for Standards

ID/PT Standards can be published and distributed via:

Paper

- Standards paragraphs
- Information mapped

On-line

- Mainframe
- Hypermedia

HOW TO DECIDE WHETHER ID/PT STANDARDS ARE FOR YOUR ORGANIZATION

WORKSHEET

1. WHY? ID/PT Standards could help my department/organization do:

2. DISADVANTAGES? The following apply in my department/organization:

3. ADVANTAGES/RESULTS? I need to see the following advantages/results in my department/organization:

4. Based on my answers to 1, 2 and 3, I WANT / DO NOT WANT to develop ID/PT Standards for my department/organization.

5. I want my department/organization ID/PT Standards to be:

PROCESS ..... PRODUCT

ALGORITHM ..... HEURISTIC

FULL PROCESS ..... PART PROCESS

6. The sections/topics I want to include in my department/organization ID/PT Standards are:

7. The format I want to use for my department/organization ID/PT Standards is:

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BEING AN EFFECTIVE INSTRUCTIONAL DESIGNER: LESSONS LEARNED

by William J. Rothwell and H.C. Kazanas

We feel it is fitting to close the book with some personal reflections, gained through our experience, about what it takes to be effective as an instructional designer. In the enumerated items below we will share lessons we have learned, our personal opinions, and thoughts about professional development. We will close the chapter with an activity that is intended to help you, the reader, think about the changing instructional design process and the competencies you should work toward acquiring as the future unfolds.

Being an Effective Instructional Designer

The following eight points sum up what we feel are the keys to success in instructional design.

Point 1: Emphasize performance analysis

We have found over the years that conducting a first-rate performance analysis is central to the professional practice of instructional design. Indeed, we feel it is the single most important competency for success in this field.

In many cases, however, operating managers will pressure you to take a shortcut. More often than not, we have found, they would like you to skip the analysis, jump into action, and do what they want you to do. (There is a bias, in the United States at least, toward highly visible action but not necessarily toward thoughtful analysis.) The lesson we have learned, and that we would like to share with you, is to beware of giving customers what they want but not what you are genuinely convinced they need! Too often, that path leads down blind alleys fraught with perils on every side. Even worse, it can eventually damage the credibility of the training department if the causes of performance problems operating managers identify are incorrect, the solutions they offer are ill advised, or they're simply seeking trendy solutions to otherwise complex problems. Remember that the ultimate responsibility for failures will quickly return to you but that many people will help you take credit for successes.

Point 2: Exercise performance analysis creatively

Although we emphasized performance analysis in point 1, we have to admit that we often feel that present-day models of performance analysis are too simplistic. Our opinion is that, since it is sometimes difficult to be clear in print, writers on the subject have sometimes erred on the side of clarity rather than bringing out the true complexity that may be involved in analyzing problems. In practice, we do not always limit ourselves, as popular models of performance analysis suggest you should, to the simple pigeonholing of all problems into (1) those stemming from skill deficiencies (what Gilbert [1978] calls deficiencies of execution), and (2) those stemming from nonskill deficiencies (what Gilbert calls deficiencies of environment). We find that, too often, such pigeonholing does not reflect the actual complexity of problems. Indeed, many problems stem from both deficiencies of environment and deficiencies of execution.

Nor is it the dizzying complexity of the problems alone that poses a challenge. The broad range of potential solutions, instructional and non-instructional, easily exceeds the fifteen performance improvement interventions formally identified to date (Hutchison, 1990). To make matters more confusing, each solution can be combined with others.

The lesson we have learned is that it is our own inability to be creative enough that often stymies our search for effective solutions. So our advice to you is this: *hold nothing sacred.* Be willing to experiment. Think about otherwise crazy ideas. Challenge assumptions others blithely take for granted in your quest for the causes of performance problems and innovative solutions. As examples of what we mean, consider: Is it really necessary to structure an organization into jobs rather than groups or teams? Must all organizations have pay structures? Is an organization chart essential? Should every group in an organization have a "boss"? Are performance appraisals or job descriptions always necessary if other means can be found to provide feedback, document performance, or outline responsibilities? Always be willing to ask "why?" Listen carefully to the answers you receive.

Our thinking is that eventually the instructional design field will move beyond performance analysis, with its problem-oriented focus, and will begin to concentrate on designing work systems themselves. Productivity can be directly affected by such strategies as spreading more work across fewer workers, broadening the responsibilities of work groups, or linking up groups more closely to those supplying them or distributing for them. As we

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confront such challenges, we should direct our attention more often to anticipating, and avoiding, problems before they arise rather than troubleshooting them after they become apparent.

Point 3: Take steps to educate managers about performance analysis

Although the instructional design field may be gradually moving away from performance analysis toward actual work systems design, we still remain staunch defenders and believers in performance analysis at present. We also believe that instructional designers should not be content to practice performance analysis as a solitary pursuit, something treated sacrosanctly as a well kept professional secret. They should, instead, work energetically to educate operating managers about it. They can do that by offering training on performance analysis, writing and circulating organizational "white papers," holding executive briefings, writing articles for company publications, and talking to management groups.

It has been our experience that many benefits can flow from these efforts. First, frivolous or ill-advised requests for instruction will diminish as managers become more sophisticated. (Initially, though, you will receive many requests for help in applying performance analysis to special situations or in unusual conditions.) Second, publicizing performance analysis is a subtle way to educate others about the importance of instructional design itself. Third, training others to do troubleshooting may eventually lead to a day when you can devote more time to solving problems than to analyzing them.

Point 4: Pay attention to the future and to the consequences of solutions

Looking back over time, we have to say that we feel that most of the operating managers we have encountered are a bright, impressive group of people. Yet we have found, in too many cases, that they tend to think in a linear chain like this:

1. We have a problem;
2. We search for a solution; and
3. Having identified a solution, we implement it.

Think of this approach as akin to problem-solving on a staircase, because the conditions giving rise to problems and conditions affecting solutions do not move. As the "ground," or steps, on a staircase, conditions are stationary. If an implemented solution introduces new problems not initially considered, managers repeat anew the steps listed above.

But you should do better than that if you are to save your clients time and spare yourself grief. We find that the following approach works better:

1. We have a problem or can anticipate one before it manifests itself;
2. We search for a solution while trying to find out if any conditions presently affecting the problem will change in the future;
3. We tentatively identify a solution and consider how future changes in the organization's environment or in the organization itself may affect it;
4. We play a game called "If...what" ("if we implement the solution...what is likely to happen?");
5. We step back into the present and modify the solution to avert or minimize the problems that we expect will arise during implementation;
6. We implement the solution; and
7. We follow up continuously to ensure that the solution works as expected as the future unfolds.

Think of this approach as akin to problem-solving on an escalator. The "ground"—meaning conditions affecting the problem and solution—is capable of moving. What is more, the consequences of solutions are considered before implementation.

We cannot stress too much the importance of (1) scanning the future to see if anything will change the conditions causing a problem, (2) considering future consequences of steps taken in the present to address problems, (3) scanning the future to see if anything will change the assumptions we make about a problem's solution, and (4) following up continuously to ensure that the solution works as expected.

Point 5: Be flexible when applying a model of instructional systems design

Although we have devoted much time to the steps in a model of instructional systems design (ISD), we do not want you to come away from reading this book with the impression that instructional design is inflexible and never lends itself to modification. To apply it properly, you must be creative, not mechanical, in your approach. You must be willing to add, modify, or subtract steps in the process to match up with the culture of the organizations in which you use it. That may require spur-of-the-moment decisions or quick-witted action.

Point 6: Take steps to develop yourself professionally but realize that professional development means more than just keeping knowledge and skills current

We define professional development as an individual's gradual and continuing mastery of a field's body of knowledge, methods, and procedures. In addition, it also implies that practitioners adhere to ethical standards appropriate to the field.

In a very real sense, then, professional development is never "finished." It requires constant effort. Even the most experienced instructional designers, like the most experienced professionals in other fields, should continu-

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ously strive to build their knowledge, maintain their awareness of new developments and approaches, and preserve their adherence to ethical standards.

Point 7: Recognize and overcome barriers to professional development

It has been our experience that many instructional designers—even the most ambitious and dedicated—are sometimes unwilling or unable to make time for such professional development activities as reading, participating in local chapters of organizations like NSPI or ASTD, attending professional conferences, or taking college courses.

It is not uncommon to hear a plethora of excuses when staff members are asked about their professional development. Lack of time is frequently cited. Here is a sample of typical excuses we have heard:

- If the company thinks professional development is important, then the company can send me on work time. Otherwise, I have to get my kids to school every day. I also need to be home at night.
- It is worthwhile attending chapter meetings. But I do not like to travel at night [or during the day] to these meetings. I just do not have time for it.
- I would enroll in school to continue my education, but I just don't have the time for commuting, attending classes, and doing the homework.

It is ironic that these and similar excuses are also offered frequently by the trainees that instructional designers work so hard to satisfy in the workplace.

To address these excuses, we find it helpful to counsel employees one-on-one. The purpose of the counseling is to reemphasize the importance of professional development and convey the message that it is not entirely the company's—or the boss's—responsibility to address professional development needs. The lion's share of that responsibility always belongs to the individual.

Lack of motivation is also a barrier to professional development. We see it often enough among seasoned instructional designers who feel so smug about their experience or educational credentials that they see no reason to pursue further development unless there is an obvious or immediate personal gain to be had. If asked about their professional development, those lacking motivation are likely to make statements like these:

- I don't really feel a need. The articles and books I look at seem too superficial. The conferences I have attended waste time and are geared to novices. Chapter meetings always seem to be dominated by a clique of insiders. I feel I am doing pretty well without these time wasters.
- Experience is the best teacher. I feel that I am developing professionally by working in the field every day.

Managers of instructional designers should address these objections by pointing out that everyone, no matter how experienced, can and should develop professionally. If need be, managers should ask these instructional designers how they would address similar objectives raised by trainees who attend courses they designed. Then managers should be quite obvious about turning the approach around, applying it directly to the instructional designer who offered excuses!

Finally, very real barriers to professional development can stem from organizations rather than from instructional designers themselves. Chief among these barriers is what instructional designers perceive to be lack of support for professional development activities. It is a barrier most keenly felt by the most ambitious staff members.

Lack of funding is one way that organizations show lack of support. Some cost-conscious organizations pinch pennies on journal subscriptions, association membership fees, and book purchases. Likewise, many organizations limit attendance at professional conferences and chapter meetings. Employees interpret such miserly practices as direct assaults on their efforts to develop themselves professionally. Worse yet, managers of instructional designers are not always capable of single-handedly reversing these trends because final budgetary decisions are made by others.

What managers can do, however, is make sure they encourage professional development in spite of the circumstances. One approach that may work is to poll staff about the journals they would like the organization to subscribe to, the associations they wish to belong to, the books that should be purchased, and the conferences they would like to be sent to. The managers should then make the budget requests based on this information. Each item should be justified for a work-related reason.

As an alternative when that strategy fails, managers in large organizations may find that there is a possibility of forming networks of instructional designers internal to the organization. That can be an inexpensive vehicle for professional development. It can also have a payback in other ways because it forges ties to other instructional designers in the organization.

On the other hand, instructional designers in small or medium-sized organizations may find that they simply have to absorb more of the funding for their own professional development without expecting their employers to do so. While that is a bitter pill to swallow—it does amount to a pay cut—it preserves participation in professional development activities even when employers cut expenses and undergo downsizing or rightsizing efforts. For innovative and committed people, no barrier is so insurmountable that they are unable to find the means to fuel their learning.

Lack of supervisory encouragement is the single worst barrier to professional development. Instructional designers will not participate in professional development activities when they feel that their bosses do not support them. The best way for managers of instructional design

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to foster professional development is to set the example, not by just talking about it but also by participating.

While there is no simple solution to lack of supervisory encouragement, some instructional designers are honest enough to confront their bosses when they encounter this problem. In those cases, instructional designers may have to undertake the delicate task of pointing out to their bosses that the example they set is the one many people will be influenced to follow.

Point 8: Changing environmental conditions will prompt modifications in the instructional design process and in the competencies required for instructional designers

As our final point in this book, we want to stress that instructional design is not a static field; rather, like so many other things, it is influenced by trends in the economy, government, technology, and demographics.

To maintain professional competence and adapt to changing conditions, you should willingly revisit the steps in the instructional design process and periodically reassess your own competencies relative to it. As our parting gift to you, we offer you an activity to help you do that. (See Figure 1.) Use the activity to make notes about the changes you expect to see in the instructional design process as it is applied in your organization. Also use it to note the actions you should take on a continuing basis to prepare yourself professionally for the skills necessary to carry out that process. Use the results as a means of updating your professional competencies.

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Figure 1. An Activity for Preparing for the Future of Instructional Design

Directions: Use this activity periodically to help you think about the future. In the left column, you will find the model of the steps in the instructional design process that we have used in this book. In the center column, make notes about any changes in the steps of the process that you expect to see in your organization's future. In other words, how will the step be carried out? (Feel free to add, subtract, or modify the steps shown in the left column.) Then, in the right column, jot down ideas about the knowledge or skill you will need to carry out the changing steps of the instructional design process as the future unfolds. When you finish the activity, meet with your immediate supervisor and/or professional colleagues to help you prepare an action plan to acquire new knowledge or skills and identify resources to aid you in carrying out the action plan.

Steps in the instructional design process	How will this step be carried out in the future?	What knowledge, skills, or other abilities will you need to carry out the steps in the future?
Determining Projects Appropriate for Instructional Design Solutions		
Selecting and Implementing Noninstructional Design Solutions to Performance Problems		
Conducting a Needs Assessment		

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Figure 1. An Activity for Preparing for the Future of Instructional Design, (cont.)

Steps in the instructional design process	How will this step be carried out in the future?	What knowledge, skills, or other abilities will you need to carry out the steps in the future?
Assessing Relevant Characteristics of Learners		
Analyzing Characteristics of a Work Setting		
Performing Job, Task, and Content Analysis		
Writing Statements of Performance Objectives		
Developing Performance Measurements		
Sequencing Performance Objectives		
Specifying Instructional Strategies		

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Figure 1. An Activity for Preparing for the Future of Instructional Design, (cont.)

Steps in the instructional design process	How will this step be carried out in the future?	What knowledge, skills, or other abilities will you need to carry out the steps in the future?
Designing Instructional Materials		
Evaluating Instruction		

(*Editor's Note:* For a summary of the entire contents of this book, see the abstract on page 3.36.)

KEEPING YOUR PILOTS ON COURSE

by Jan Chernick

You've developed a new training course and it's time to schedule the pilot session. A lot of effort has gone into the development; you think the program will meet the needs of your internal or external clients. But will it? How will you know?

Have you thought about how you will evaluate the pilot session? If not, now is the time to think about it. If the course isn't as effective as it could be, you should know that. Then you can make the necessary corrections before you release it for widespread delivery.

At New England Telephone, evaluation is considered during the development of every new course. But it's often impossible to conduct in-depth evaluations on every pilot; sometimes the specialists receive more requests for pilot evaluations than they can handle. Instead of time-consuming, in-depth evaluations, they use two quick methods that don't require the use of extensive resources.

An important part of the pilot evaluation process at New England Telephone is negotiation with the course designer or the person who requests the evaluation. That helps trainers determine whether to conduct an evaluation and what information it will provide. Several factors play a part in those decisions:

- The amount of corporate resources (money, staff, and time) used to develop the course
- The number of people who will attend the course
- Major stakeholders' interest in the course
- Time or resource constraints
- How the evaluation data will be used.

It doesn't make sense to spend resources on evaluation when you know that nothing will be done with the data you collect. For example, there may be constraints that prevent any changes from being made in a course design, such as a mandate that a course be implemented as is.

Once you've decided that you will evaluate your pilot, how do you do it? Two simple methods we've used successfully:

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- "Group debriefs" at the end of each day
- Short surveys administered directly after specific modules are taught, and again at the end of the course.

Both methods provide valuable information and don't require major investments in time and resources.

What is a Group Debrief?

A group debrief is a directed group discussion with the participants of a short pilot course (generally three days or less). The best size for these discussion groups is usually 8 to 15 people. During the discussion, a moderator asks participants to rate individual modules of the course and then to respond to specific questions about the modules.

There is virtually no limit to the information you can obtain during a group debrief. You can solicit opinions about any areas of concern. We most frequently ask the participants for their opinions regarding course content. See the box, "What To Ask," for examples of the kinds of questions you might use.

Make sure that the person who conducts the group debrief observes the session first. A firsthand witness is much more likely to understand participants' comments about the course and to ask appropriate questions.

Select the moderator carefully. She or he is a critical link in the success of an evaluation. The moderator should have good facilitation skills as well as the ability to remain unbiased toward feedback as it is given.

The moderator should not be the course designer or instructor. A designer or instructor has a stake in the outcome of the evaluation. It would be difficult for such a person to remain objective and refrain from explaining why the course was designed or delivered the way it was.

Preparing for a Group Debrief

A group debrief requires some preparation. Make sure that participants in the pilot group are members of the audience being targeted in the training course. People who have another interest in the pilot (major stakeholders such as subject matter experts and supervisors of the target audience members) sometimes enroll as participants. But their perceptions may differ from those of the target audience.

The instructor, course designer, and participants should know in advance that there will be an evaluation at the end of each day of the pilot. This is critical for the participants. If the debriefing session will extend the day beyond normal work hours, people need to be able to plan for it. You may not get useful feedback if people are concerned about getting out late. Also, you may have to consider whether you'll need to pay participants for overtime.

We generally try not to debrief more than five or six modules per day. Otherwise, the session tends to become long and tedious. To make it easier for participants, we prepare evaluation worksheets. As the course progresses, the participants can use the worksheets to jot down their thoughts.

For example, a useful evaluation worksheet could start with the following general instructions.

Please note your general thoughts on the material presented. Consider the following: pace, flow, content, and amount of information presented. Please comment on the usefulness of the exercises where appropriate. Do you know of any questions or issues that were not addressed?

The rest of the worksheet is divided into three sections, to correspond to the three modules of the course. Trainees can use each section to jot down pertinent comments, in order to have a record of their own perceptions to spark their memories during the group debrief.

At the end of each module, the instructor may want to stop and give participants a few minutes to note their thoughts about the module while it is fresh in their minds. This may disrupt the flow of a course, but it can also yield better feedback during the debrief.

If the modules take longer than anticipated and the group debrief has to be shortened or eliminated (as occasionally happens even with the best of planning), at least you can refer to the worksheets for some written feedback.

During the Pilot Course

At the beginning of the pilot, the instructor should introduce the moderator to trainees. If you are the moderator, you should spend a few minutes talking to participants so that they will understand what is expected of them and feel more comfortable about giving feedback.

This discussion should include an explanation of why the course is being evaluated. For example, an evaluation may be conducted in order to determine people's reac-

What to Ask

Here are some examples of the kinds of questions you might ask during a group debriefing session:

- How relevant was the course content to the job?
- Was the pace of the course just right, too fast, or too slow?
- How well were the topics sequenced? Did the content flow easily from one topic to another?
- Did the course meet its objectives? Were the course objectives appropriate?
- How do you feel about recommending the course to others?

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tions, to see if the course meets its objectives, or to find out if modifcations are needed.

The moderator should let trainees know that a group discussion will be held at the end of each day of the course and that they will be asked to give their opinions about the material that has been presented during the day.

It is important for trainees to know why the moderator is present. Your role as moderator is to get participant feedback and to report it to the course designers. Trainees should understand that a moderator has no stake in the evaluation results.

Emphasize to participants that their feedback—positive and negative—is valued. Course designers need to know what worked and what didn't work in order to make improvements to the course.

At the beginning of the course, distribute the evaluation worksheets and explain their use. Let participants know that the worksheets will be collected, but that trainees do not have to put their names on them. This is also a good time to mention that trainees can use the worksheets for comments they don't want to share publicly.

Conducting the Group Debrief

The session is over and it is time to begin your group debriefing session. Taking breaks during such a discussion can be disruptive, so consider allowing a short break before you begin.

The only people who should be present during the debriefing are the moderator and the participants. Anybody else who has been observing the pilot should leave the room. At the very least, let such people know that only the moderator and participants should take part in the discussion.

To begin the group debrief, write the name of the first module at the top of a sheet of easel paper. Then draw a horizontal axis marked with a rating scale that ranges from 1 to 9. Explain to participants that 1 means "poor," "the worst," "you wish you'd been someplace else," or any appropriate descriptor, and that 9 means "excellent," "the best it can be," or whatever.

Briefly review with participants what was covered in the module. To keep the discussion on a positive note, start with 9 and ask participants for a show of hands for each number on the scale. Under each rating, write the number of people who raised their hands for that rating. It's a good idea to double-check the number of responses to make sure that they match the number of participants. Sometimes, participants are uncomfortable about giving their ratings verbally. A group may perceive a particular trainee to be a leader, an expert, or a dominant group member. People who do not agree with that person's rating may be reluctant to publicly voice their own ratings. Be sensitive to such feelings. If it appears that participants would prefer it, allow them to note their ratings privately on the evaluation worksheets.

When participants have rated the module, ask the following questions and write the responses as they are given:

What worked well? This provides feedback about the positive points of the module and usually stimulates group discussion, because people tend to feel comfortable about giving positive feedback.

What would you change to make it better? What would have to change in order to persuade you to raise your rating to a "9"? This is a nonthreatening way to find out what participants didn't like or what didn't work. Creative ideas are generated when people "piggyback" their own ideas onto each other's comments.

Continue the process for each module.

The hardest task for the moderater is to keep the discussion focused on positive actions for improving the course. For example, if a participant makes a comment such as, "I didn't like that," then the moderator can ask, "What would you have liked?" If a participant says, "I didn't learn anything from that exercise," the moderator can ask, "What would the exercise need to look like in order for you to learn something?"

Sometimes it's necessary to ask additional questions during the debrief in order to clarify comments. Or you may need to poll participants when there is some doubt as to whether a comment reflects the opinion of one person or of the whole group.

Never make judgments about the feedback. As moderator, you should remain impartial. Write down the comments as they are given, even those that seem way off base. There is a natural tendency to respond to comments or questions, to advise participants of changes that may be planned, or to explain why the topics were presented as they were. It is critical not to do that. Such responses can make participants feel as if they are being put on the defensive and can inhibit discussion and feedback.

When you've covered all the modules in the debriefing, collect the worksheets and easel sheets for compilation and analysis.

Analyzing the Data

So what do you do with all the data? To make the analysis easier, start by having somebody type up the information from the easel sheets and the evaluation worksheets.

The easel sheets will contain both subjective comments and numerical scores. It's best to type up any comments exactly as they are written.

To analyze the numerical easel sheet data, you'll need to compute an average rating for each module. Do that by multiplying the number of responses received for each rating by that rating's point value. Total the results and divide the sum by the total number of participants.

For example, say you have a group of 13 people at your debriefing session. Their responses look like this:

- One person gave the module a rating of 9. *(1 x 9 = 9)*
- Four people gave the module a rating of 8. *(4 x 8 = 32)*

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End-of-Pilot Evaluation Survey

Accounting Coder Training—Trainee Questionnaire

Directions: Now that you have completed Accounting Coder Training, we would like to know your thoughts about the three-day program as an integrated whole. We would appreciate it if you would take a few minutes to respond to the following questions.

1. What is your overall impression of the training?
   - o Excellent
   - o Good
   - o Fair
   - o Poor

2. Listed below are objectives for the training course. Please indicate the extent to which each objective was met:

You will be able to use the Accounting Coder Guide.
- o Successfully
- o Somewhat successfully
- o Not successfully

You will be able to select correct accounting system codes.
- o Successfully
- o Somewhat successfully
- o Not successfully

You will be able to make the proper entries on cost-reporting forms such as the Employee's Personal Expense Voucher, Supplier Bill Payment forms, and so on.
- o Successfully
- o Somewhat successfully
- o Not successfully

3. What is your opinion of the student guide? (Please check all that apply.)
   - o It was helpful in class.
   - o It was easy to use.
   - o I plan to use it on the job.

4. What is your opinion of the Coder's Manual? (Please check all that apply.)
   - o It was helpful in class.
   - o It was easy to use.
   - o I plan to use it on the job.

5. Please rate the effectiveness of the following:

	Not effective				Effective
Sample completed forms	1	2	3	4	5
Wall displays	1	2	3	4	5
Code Mania game	1	2	3	4	5
End-of-module games	1	2	3	4	5
Team activities	1	2	3	4	5

If you rated an item 1 or 2, please explain why.

_____
_____
_____

6. Would you recommend this training course to others?
   - o Yes
   - o No
   - o I don't know

Please give a reason for your answer.

_____
_____
_____

7. What other comments do you have about this training course?

_____
_____
_____

Thank you for taking the time to complete this questionnaire.

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- Five people gave the module a rating of 7. *(5 x 7 = 35)*
- Three people gave the module a rating of 6. *(3 x 6 = 18)*
- Nobody gave the module a rating of 5 or less.

The sum of those totals is 94. Divide that sum by the total number of participants to come up with the average score for the module. In this case, the average is 7.23, computed by dividing 94 by 13.

You can relate the average scores to verbal qualifiers if you wish, based on criteria you establish. People always want to know what the numbers mean and how they compare to the ratings of other pilots. We've established the following descriptors for our ratings:

- 1.0 to 3.9 is poor
- 4.0 to 5.9 is fair
- 6.0 to 7.9 is good
- 8.0 to 9.0 is excellent

Of course, you can use any descriptors that are appropriate for the particular program.

Compile worksheet comments into one "composite" set that groups together all participant comments for each module. This format makes common themes easily visible.

The Survey Method

What if you don't have the time or resources to do a group debrief after your pilot program. You can compile some helpful information through the use of short, simple surveys. Each pilot is different, with unique objectives, content, and activities, so customized surveys may be more useful than standardized forms. Of course, some basic questions can be asked for every course. The most effective surveys address both specific concerns and more general issues.

One approach that we've used successfully consists of short, end-of-module feedback worksheets and an end-of-pilot evaluation survey.

The worksheet for end-of-module feedback can be short and simple. One effective format gives the topic and purpose of the module and then lists three questions, each with a rating scale from 1 to 5. Here are some sample worksheet questions.

- *I understood the information: 1=with great difficulty; 5=with great ease*
- *The information presented was: 1=not useful; 5=very useful*
- *The pace of this unit was: 1=slow; 3=about right; 5=fast*

The only other question is open ended: *How would you improve this module?*

The module and rating descriptors will be specific to each course. Develop them from negotiations with the course designers about the information needed. Notice that the questions provide the opportunity for quantifiable as well as open-ended responses. You can use a separate sheet of paper for each module to facilitate distribution and collection.

An example of an end-of-pilot evaluation survey is shown in the figure on page 3.34. It includes some standard questions to gauge participant reactions. Questions on objectives, student materials, and activities are customized in order to provide course designers with information about certain components of a particular course.

Usually, the primary concerns in evaluating pilot courses focus on course content, not instructor performance. If instructor ability or performance may influence the success of the pilot, you may want to consider asking some additional questions to address those issues.

Once you have created the format for such a questionnaire in your wordprocessor, you can use the format over and over again. All you need to change is the customized information.

Remember that the number of participants in pilot sessions is usually small; the information you gather is probably not statistically reliable.

If the participants' opinions about the pilot course are markedly different—or if you are concerned that the participants are not all members of your target audience—then you should gather more data.

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ILLUSTRATING COURSE ORGANIZATION

Source: "Visible Models of Course Organization," by Stephen Yelon and Christopher Reznich, *Performance & Instruction*, July 1992, pp. 7-11

A visible model of the organization of a course shows how a course's components fit together to make a unified whole, and it enables the trainee to understand the course more fully. This visible model serves 4 purposes for course designers, as well, say the authors: (1) clarification of ideas, (2) unit and lesson planning, (3) communication of course requirements, and (4) help in presenting a course overview. The authors present a visible model of a health course as an illustration, and then they examine the 6 steps in developing such a model:

1. Make a rough draft of the major components of the course.
2. Decide upon and state the goal that captures what the whole course is about.
3. Describe the parts of the course, including goals and subgoals for each unit.
4. Explain the organization of the course, the relationships among the subgoals and their relationship to the main goal.
5. Draw a picture of the course components and organization.
6. Use and test the visible model. (AN48)

INSTRUCTIONAL DESIGN TEXT

Source: *Mastering the Instructional Design Process: A Systematic Approach*, by William J. Rothwell and H.C. Kazanas, Jossey-Bass Inc., Publishers, 1992, 386 pages

This systematic approach to instructional design is based, say the authors, on the foundational work of Foshay, Silber, and Westgaard in *Instructional Design Competencies: The Standards* (1986), which identifies 16 competencies for instructional design work. The present book "is intended to take up where *The Standards* leaves off," say the authors. "While *The Standards* focuses on what instructional designers *do*, this book focuses on *how* to demonstrate competencies of instructional design work." The book, intended as a desk aid for professionals as well as a text for students, consists of 5 parts.

1. **Detecting and Solving Human Performance Problems.** The book begins with a chapter that defines instructional design as an emerging profession and that outlines key issues which affect human performance in organizations. This is followed by a chapter—unique in instructional design texts—which surveys non-instructional solutions: feedback methods, job performance aids, reward systems, employee selection practices, and organizational redesign. The next 3 parts of the book discuss, in some detail, the elements of a comprehensive instructional design process.
2. **Analyzing Needs, Learners, Work Settings, and Work.** Chapters in this section provide detail on conducting a needs assessment, on determining characteristics of learners, on analyzing a work setting, and on performing job, task, and content analyses.
3. **Establishing Performance Objectives and Performance Measurements.** This section describes how to write statements of performance objectives, how to develop performance measurements, and how to sequence performance objectives.
4. **Delivering the Instruction Effectively.** Here the authors explain how to specify instructional strategies, design instructional materials, and evaluate the instruction given.
5. **Managing Instructional Design Projects Successfully.** Having completed a discussion of the instructional design work itself, the authors turn to administrative matters: designing the instructional management system, planning and monitoring projects, communicating effectively, interacting with others, and promoting the use of instructional design. The book concludes with personal reflections of the authors on keys to success in instructional design. Their 8 points include: emphasizing performance analysis, paying attention to the future and to consequences of the solution, and remaining flexible in applying an instructional design model.

An appendix includes a summary of the instructional design competencies and performances mentioned in *The Standards*. (AN49)

ENVIRONMENTAL ANALYSIS IN INSTRUCTIONAL DESIGN

Source: *Analyzing the Instructional Setting: Environmental Analysis*, by Martin Tessmer and Duncan Harris, Kogan Page Ltd., 1992, 179 pages, £28.00

"The environment necessarily and inevitably affects learning," say the authors, "whether we analyze it or not." They define environmental analysis as "the analysis of

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the *context* of instructional systems, of the physical and psychosocial factors that affect learning." This volume is designed to help instructional designers develop a methodology to conduct an environmental analysis as part of the "front-end" analysis. The book is divided into 4 parts:

1. **Introduction**—which covers how to use the book and an overview of environmental analysis.
2. **The Learning Environment**—which describes in some detail the factors which affect the learning environment: facilities (seating, temperature, acoustics, etc.), materials (instructional lifespan, ease of use, etc.), equipment, learners, and instructors. Each chapter includes data gathering suggestions.
3. **The Support Environment**—which discusses institutional support (such as production services, storage, support personnel, etc.) and organizational factors (such as the organizational culture, commitment, etc.), and
4. **Environmental Data Gathering and Design**—which details data-gathering techniques and tools, and synthesizes the data needed to produce an environmental picture and blueprint.

The principal value of the volume lies in the data collection methodology it offers. An appendix includes a sample Environmental Analysis Survey to illustrate how a questionnaire could be designed. (AN50)

FLEXIBLE OBJECTIVES vs. PERFORMANCE-BASED OBJECTIVES

Source: "The Case for More Flexible Objectives," by Linda Stoneall, *Training & Development*, August 1992, pp. 67-69

Performance-based training objectives, this author says, are fine when they relate to quantifiable job skills, but programs that target intangibles—such as leadership development, information-giving and personal growth—require objectives that are broader, individualized, and flexible. The author briefly describes Robert F. Mager's work in criterion-referenced instruction, and she argues that the performance base is not needed and is even inappropriate to some types of training. Flexible objectives differ from performance-based ones in that: (1) they are unique to each individual, (2) they allow trainees to choose how to integrate the training into their own work habits, based on each individual's values, (3) they may take a long time before showing any clear results, and (4) they emphasize the process rather than the end result. Several psychological tests have been developed to aid in measuring the personal growth developed through flexible training, although the author cautions that interpretation of the scores is best left to the individual. She also discusses the use of broader, general terms in the writing of flexible objectives, rather than the precise terminology of performance-based objectives. (AN51)

CONDUCTING AND RECORDING THE SUBJECT-MATTER EXPERT INTERVIEW

Source: "Getting Inside an Expert's Brain," by Diane M. Gayeski, *et al.*, *Training & Development*, August 1992, pp. 55-62

Converting the knowledge in a subject-matter expert's (SME) head into a form that can be communicated to trainees is not an easy task, these authors acknowledge. In this article, they discuss several techniques for simplifying the job of eliciting information from SMEs and for documenting that information for use by instructional design teams. They begin by presenting a participatory design model, which they describe as differing from the traditional linear models in several ways: (1) it allows for training projects which start somewhere in the middle of the process, i.e., where content and objectives are defined prior to needs assessment; (2) it assumes that there is no single source of content and strategies, and it provides a way to identify and reconcile areas that are common with areas that are diverse; and (3) it advocates designing programs through a team that represents a training program's entire constituency. Following a discussion of the 17 steps in utilizing this model, the authors examine the reasons why it is often difficult to interview a SME, and they review questioning guides for each of the 3 phases of the interview:

- **The descriptive elicitation phase**, in which important, general concepts are revealed in the terms and specialized language used by the SME,
- **The structural expansion phase**, which is designed to probe the relationship between the concepts and the organization of the SME's knowledge, and
- **The scripting phase**, which uses the knowledge uncovered in the other 2 phases to reveal procedural knowledge or the detailed process of solving problems.

A sidebar presents sample questions for each phase, after which the authors discuss documentation tools that can be used in recording and sorting through the information gathered in the SME interview: (1) the *Content Expert Interviewer (CEI)* and *DesignStation*, both products of OmniCom Associates, and (2) the *System for Knowledge Management (SNOWMAN)* and the *System for Knowledge Base Evaluation and Analysis (SNOWBALL)*, both developed at Brigham Young University. (AN52)

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TRAINING MEDIA SELECTION

Source: "Words About Media Selection," by Francis Cartier, *Performance & Instruction*, January 1992, pp. 9-12

The way we talk about instructional media can have a profound influence on how we use and misuse media, says the author. Too often, trainers select the medium before clearly defining the purposes for which it will be used. Media selection should not occur, the author says, until 3 prior steps have been completed: (1) analyzing the learning objective for the lesson, (2) choosing the best instructional technique to achieve that objective, and (3) deciding how to evaluate performance and give feedback. The author then describes 4 basic types of media: unreactive, reactive, interactive, and adaptive, and he explains how each affects and invites student response. A sidebar illustrates the capabilities of several media, from textbooks to computer-assisted learning. In concluding, the author notes that it is not the medium that does the teaching, but the author or instructor behind the medium. (AN53)

CHOOSING COMPLEXITY OF INSTRUCTIONAL DEVELOPMENT

Source: "Decision-Making Factors and Principles for Selecting a Layer of Instructional Development Activities," by Martin Tessmer and John F. Wedman, *Performance & Instruction*, April 1992, pp. 1-6

The authors' "Layers of Necessity Model" for instructional design and development (ID/D) projects takes into account that limited time and limited resources sometimes dictate a simple instructional design process over a complex one. Load factors (e.g., time, money, and task difficulty) inhibit projects, while payoff factors (e.g., improved performance, satisfaction, and project recognition) encourage more effort in projects. This article discusses 8 principles to guide instructional designers in the degree of complexity appropriate to a project. The first 4 principles refer to the "initial layer" of instructional design; the next 4 refer to successive layers of complexity in design:

1. For any ID/D activity selected, the payoff for the activity must be equal to or greater than the load that encumbers it.
2. The pressure to include or omit an ID/D activity can mitigate the load or payoff for that activity.
3. The initial layer should be conservatively selected, particularly on ambiguous or novel projects.
4. Limit the degree of front-end analysis to project production capabilities and anticipated needs, allowing ample resources for design and development activities.
5. Successive layer activities should elaborate or complement related activities accomplished in the initial layer.
6. Successive layer activities should be limited to those that will have the greatest payoff-to-load ratio.
7. Select successive activities that build upon successes enjoyed earlier in a project.
8. Do not select activities that are considerably more sophisticated than any other activities. (AN54)

DESIGNING INSTRUCTIONAL TRANSACTION SHELLS

Source: "Instructional Transaction Shells: Responsibilities, Methods, and Parameters," by M. David Merrill, Zhongmin Li, and Mark K. Jones, *Educational Technology*, February 1992, pp. 5-26

As part of their continuing research on computer-based instructional design systems, the authors discuss instructional transaction shells. They review definitions given in earlier papers, and then they focus on the 4 responsibilities they feel an instructional transaction must carry out: knowledge selection, knowledge sequencing, interaction management, and interaction enactment. They note that all transactions include (1) knowledge selection methods for partitioning knowledge, portraying knowledge, and amplifying knowledge, (2) knowledge sequence methods for routing the learner through the selected knowledge and guiding the learner's advancement, (3) interaction management methods for prioritizing interactions and expediting the learner's acquisition of the knowledge involved in the interaction, and (4) interaction enactment methods for overviewing, presenting, and enabling practice and assessing knowledge. At the conclusion of the article, the authors discuss the parameter values associated with a transaction. (AN55)

ID MODEL FOR REFLEX PERFORMANCE OF COMPLEX SKILLS

Source: "Training for Reflective Expertise: A Four-Component Instructional Design Model for Complex Cognitive Skills," by Jeroen J.G. van Merriënboer, *et al.*, *Educational Technology Research and Development*, Vol. 40, No. 2 (1992), pp. 23-43

Many instructional design models offer guidelines for training one-dimensional skills, but they are inappropriate for multidimensional, complex cognitive skills that involve several component skills. In this article, the authors present what they call the *4C Model* (4 Component Model). This model aims at *reflective expertise*, the ability to perform familiar aspects of a task highly automatic, so that processing resources become available that may be used to interpret new, unfamiliar aspects of the

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problem situation in terms of generalized knowledge about the task. The model has 2 primary phases:

- The **analysis phase** seeks to describe all component skills that make up the complex cognitive skill. Different techniques are used for (1) recurrent and (2) nonrecurrent skills. Then one analyzes (3) the prerequisite knowledge necessary to perform recurrent skills and (4) the supportive knowledge necessary to perform nonrecurrent skills.
- The **design phase** also consists of 4 components. The first relates to the design of practice and the second to the design of information presentation. The model guides the user to select tactics that promote (1) compliative processing and (2) inductive processing. The authors discuss variability of practice, contextual interference, rule-based instruction, an emphasis manipulation approach, a hierarchical approach, problems with non-specific goals, and completion strategy. Then the model dictates selecting tactics that promote (3) restricted encoding and (4) elaborative encoding.

The article concludes with several applications of the *4C Model* in fault management training, computer programming, and statistical analysis. (AN56)

PROJECT MANAGEMENT FOR TRAINING ADMINISTRATORS

Source: "Applying Project Management to Training," by Tim Still, *Technical & Skills Training*, February-March 1992, pp. 15-19

"Managing training projects can be like herding cats," notes the author. In order to keep training projects on track, he recommends applying project management tools to the task. Among the benefits the author lists are: (1) projects completed on time and within budget, (2) preventive rather than reactive management, (3) easier delegation, (4) more accurate resource estimation, (5) clear priorities, and (6) more accurate tracking of the project. A Gantt chart, he explains, shows graphically the list of tasks on the horizontal axis, and the time allotted for each task on the horizontal axis. Then he describes the other type of project management approach, critical path management (CPM). CPM allows the user to coordinate several tasks which may be taking place at the same time and to determine which sequence of tasks is the "critical path"—the shortest line between beginning and completion. The author explains how to create a simple CPM chart, but he says that computers are essential for all but the simplest CPM projects. A sidebar provides a project management glossary. (AN57)

C. CREATING TRAINING MATERIALS

PRODUCE AWARD-WINNING TRAINING VIDEOS

by Steve R. Cartwright

By following some basic guidelines, you can produce video training programs that should guarantee training success. From the programs and case studies that I have extensively researched, the most successful applications of video training possess the following elements:

- Short duration.
- Audience-driven content.
- Good design principles.
- Production techniques that support training.
- Print materials that support the program.

Let's take a look at these keys to success and study how they can contribute to a successful video training program.

Program Length

Attention span and motivation to learn are factors that come into play in deciding program length. The audience's attention span will vary depending on their interest in the material being presented. We can't expect an unmotivated audience to sit through a lengthy program and get much out of it. It just won't happen.

Remember that it's difficult enough to sit in a classroom for an hour, despite the room dynamics and instructor's presence, which raise the student's attention level. Sitting in front of a television for an hour, watching an instructional video, can be an agonizing experience. If you have a lot of material to cover, it's good practice to break up the information into segments or modules that run seven to eight minutes each.

From adult learning theory we know that audiences respond better to training if they are involved in the learning process. Therefore, your program design should call for an active, not passive, learning process. This relates directly to program length as well: Keep the program segments short and have the audience respond frequently, either to questions in a workbook or to exercises, role plays or discussions within the program.

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Maintain the interest by keeping the audience actively involved with the material.

Rick Williams of American Stores Co. sees a straight connection between program length and dollars.

"The length of the program relates directly to labor cost. Our organization spends approximately 1.5 million an hour for labor. If I have a one-hour program to show the entire workforce, it will cost the company 1.5 million in labor costs to have everyone watch that program. Needless to say, our programs are kept short. They are designed and produced to reach specific objectives, and we do not go beyond that. An extra couple of minutes in a program could cost the company S80,000 or S90,000 in labor!"

Keep Program Audience Driven

Audience analysis is critical for success, so know who you are producing for. The more you know about your audience, the greater your chances for success. Successful programs target their audiences and are designed and written for a single audience.

One-on-one training works best, because you can modify the material for each learning situation. That is why computer-based training and interactive video is so effective; it modifies the curriculum for each learner. But this approach to learning is still very expensive to produce, so most video training programs are linear, meaning the viewer cannot adjust the pace, sequence or amount of material being presented.

Remember that linear video programs cannot adjust to the different learning levels of the audience members. Unless the video is controlled by each viewer and the process being taught is actually in front of the student (on a computer terminal), video is not appropriate as a totally stand-alone medium.

However, if you know the audience you are producing for, you can present the material at a level and pace they can follow. Audience analysis should include, but not be limited to, a thorough understanding of the viewers' familiarity with the content, their experience with it and their motivation to learn more about it.

Use Good Design Principles

A good design model includes a needs analysis that identifies the program; concise, measurable objectives; audience analysis; training strategy; media selection; and the evaluation process. All of these steps depend on each other to ensure success.

And remember, video is just one tool to use to train employees. Video cannot solve all training problems so we must do a good front end analysis to determine if video is a possible solution for the training problem. A comprehensive training program includes all of the elements that are needed for the audience to reach the training objective, such as learning objectives, appropriate content, videotape, workbook, student exercises and certification.

Is Video Appropriate?

Part of the design process is determining if video is the appropriate medium to achieve the training objectives. Is video the right choice for the training project?

If consistency is important, and the information needs visual interpretation, video is a good choice. The training objectives, strategy and audience are factors in the choice to use or not to use video, as are time, resources and budget. But from a training standpoint, it should be determined that video will significantly contribute to achieving the training objectives. And if the value of the program's end result outweighs the cost of production, video is likely the best choice.

The choice to use video for training was clear to Robert Tat, a producer in San Francisco, whose program for First Nationwide Bank is profiled in the case studies.

"Our problem was communicating to 5,000 employees throughout the West in a concise and consistent manner, in an interesting way that would get employees somewhat excited about the career development possibilities within the company...video was a good tool to achieve this communication. Video works effectively because it's lively, it's interesting, it's concise and it delivers the same message to everyone."

Helpful Production Techniques

Specific video production techniques can influence the training and help achieve the objectives. The producer needs to know how talent, lighting, graphics and all the elements of production can influence the training objective. We need to use these elements so that they add to and do not distract from the message.

Talent. Credibility is the key to talent selection. When selecting talent for your program, be sure that the audience can relate to and believe in the person. Often it is a choice of credibility and not professionalism; producers will select in-house talent or people who actually do the job being taught, because the audience can relate to them, believe in them and learn from them—even if the budget allows for professional actors. Professional actors look like professional actors. Will your audience accept this?

Production Design. As a teaching tool, videotape has the potential to get more attention than other media such as slides. It also offers consistency, resulting in a higher quality of learning and greater motivation. Therefore, the trainer/producer must understand the unique characteristics video offers training through special effects, graphics and sound and must design these elements into the learning experience to better achieve the objectives.

Through good production design, we plan special effects, graphics and sound to enhance the message and create a clearer understanding for our audience. However, don't get carried away with all the fancy special effects video offers. Use them only when they are appropriate for the message. Don't throw in effects

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because they appear to make the program more professional or because you feel obligated to use them since you purchased an expensive special-effects switcher.

Think through the program objectives and plan special effects that will help you achieve these objectives. How can split screens, freeze frames, slow motion or dissolves contribute to the message? Planning creates effects that belong in the program and do not appear "tacked on" or used for "dazzle."

Mike Betts of Grass Valley Group talks about one special-effect technique that has been successfully used in training videos:

"The ability to show inserted, compressed pictures of the results being produced simultaneously with the talent operating the equipment in the rest of the picture. This, together with the soundtrack, allows the information and concepts to be quickly understood.

"This production technique lends itself to training where an operational concept is involved with a visual result," advises Betts. "Both action and result can be seen simultaneously, and the functions performed can be easily related to the end result."

Graphics. Graphics are another element of production that often creates confusion and distracts from the video's message. Like other effects, graphics need to be designed and produced within the context of the message and should promote a better understanding of the subject matter by the viewer.

There are many design rules for video graphics production. Here are a few simple tips that can add to the effectiveness of your graphics for training:

- When designing graphics for video, keep them simple, bold and free of detail. Busy graphics can create confusion.
- Legibility is the key. (A good rule to follow is: no more than five words with five lines per screen.) Use bold type styles and contrasting colors. The length of time a graphic remains on the screen is controlled by the content and the level of understanding of the audience.
- Let printed support materials carry details and lengthy definitions.
- Don't use lists. Viewers have trouble with lists on the screen since there is often too much information in a list to fully comprehend.
- Compose the graphic simply. The viewer should not have to look for the meaning of the graphic. If the graphic is simple in composition, the meaning will be seen immediately.

Printed Materials

Video is not a stand-alone medium. Printed support materials are essential for successful training results. Many training programs are really training packages that consist of a workbook with lab exercises and quizzes, and the videotape that follows the workbook provides visual reinforcement of each step of the process. Such programs are very interactive. The viewer is asked to read a portion of the workbook, watch the tape and then perform the task. This approach works well in teaching computer-based procedures.

A final test helps ensure that the important points of the training are retained. The video-workbook combination also shortens learning time for the students. Typical video training support materials should include:

- An introduction that briefly describes the course goal, learning objectives and prerequisites.
- A description of each of the modules, their objectives, a glossary of key terms, reading assignments, lab exercises and module quizzes.
- Important diagrams and procedural information too detailed to include in the videotape.

In Summary

Keep it short and audience driven. Use good design principles. Be sure video is appropriate. Design production elements and use support materials. There you have it! You are on your way to creating a success. Sounds easy? Well, it really isn't.

Add to that list lots of hard work and trial and error and knowledgeable clients who are willing to use technology to solve problems.

Video does create training results if designed right. Good design is the key.

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BE JURIS-PRUDENT

by Mark Fritz

The technical traps that lay in the paths of multimedia producers can pale in comparison to content pitfalls—especially those baited by the legal system. And while much of the law surrounding multimedia involves the same sort of issues that face any type of producer or even any kind of entrepreneur, this new medium has some unique new problems that our slow-motion legal system has not yet caught up with.

Clearly, the field of multimedia is a lawyer's dream come true. Unfortunately for the small producer, it can sometimes be a nightmare. Many small producers are caught between a rock and a hard place. One lawsuit could put them out of business, yet they can't afford lawyer fees that range from $100 to $250 and on upward into the stratosphere.

It may not be wise to totally rule out using a lawyer, but it is certainly wise to minimize your need for one. Like any other business person, you should learn all you can about the law, be careful, and know when you're in over your head.

While many legal self-help books are available to the neophyte business person, so far there is only one book that I know of that is aimed directly at multimedia producers. It is *The Multimedia Producer's Legal Survival Guide* by Stephen Ian McIntosh (Multimedia Computing Corp., 3501 Ryder Street, Santa Clara, CA 95051; 408-737-7575). Although this book sells for a whopping $299, it is an invaluable source, mostly because it contains samples of many of the forms, form letters, releases, and sample contracts that a multimedia producer needs.

This is not, however, the only book that contains such things. Your first stop should be the law section of your local library. A surprising amount of information can also be obtained free of charge by writing to Copyright Office, Library of Congress, Washington, DC 20559. The office also has a phone number for general information (on voice mail) about copyright issues: 202-479-0700.

Among the materials you can get free from the Copyright Office are the various copyright application forms. These forms alone are valuable sources of information. The forms you should ask for are: *Form TX* (for text—also generally covers software); *Form SE* (for serials—covers magazines and newspapers); *Form PA* (performing arts—this form is generally used for motion pictures and other audiovisual works); *Form VA* (visual arts—usually used for individual pictorial art such as paintings, photos, and graphic images); *Form SR* (Sound Recordings—music and sound recordings in any medium).

Acquiring Rights to Media

In multimedia, you purchase the right to use someone else's intellectual property. The right most frequently purchased is a copyright.

Essentially, a multimedia producer's job is to transfer all or part of the legal rights to every work needed for the project from the original owner of the copyright to himself or his company. This can be done through an "assignment," in which the entire copyright is transferred; or it can be done through a "license," in which only part of the copyright is transferred. For example, a novelist may be willing to surrender part of his or her copyright (the right to use the text) to a publisher (or even a multimedia producer) but may wish to retain the movie rights to the novel—hoping to eventually strike it rich in Hollywood. The novelist might be willing to grant you a license, but certainly not an assignment.

The first step toward acquiring rights to media is to find out who owns those rights. This is not always as easy as it may seem. For one thing, there is not always just one owner. Songs, for example, are often owned by two people—the music composer and the lyricist. In this case, you have to get permission from both of those people. Also, if an author or artist has died, the copyright may now be held jointly by the heirs, further complicating the acquisition task.

After you've located the copyright owner, the steps toward obtaining rights are usually to contact the holder, explain very clearly what right you want, and negotiate compensation. The last and most important step is to get the holder to sign some sort of written agreement. Often just an exchange of letters that clearly outline the agreement is sufficient, but to be safe, you should probably get an intellectual property lawyer to send the holder a permission request form letter.

A permission request letter should describe your multimedia project and how it will be used or marketed (for example: it will only be used in-house to train sales reps or it will be used for sales presentations at trade shows, or whatever). It should describe the media you want to use (for example, just the music to a song, but not the lyrics), state the rights you want to acquire (for example, the right to use a film clip in a presentation in the company's offices, throughout the United States for one year) and propose or inquire about reimbursement to the holder.

A painless, but expensive, way to obtain rights for your multimedia project is to enlist the services of a "rights and permissions" or "rights clearance" company.

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They do the work for you and are particularly popular in film and advertising, where the obtaining of rights to a popular song can make or break a movie soundtrack or commercial.

One such company is BZ/Rights & Permissions, Inc., 125 West 72nd Street, New York, NY 10023. Company president Barbara Zimmerman claims that because she and her staff have "inside" information, they can save producers time and money. The staff knows, for example, that it will take weeks to get permission to use the "Dragnet" theme, and that "Nobody Does It Better" is a very expensive song to license, and that Bob Dylan and Bruce Springsteen won't grant permission for in-house productions.

Media Freebies

All works of art become public property after their periods of copyright expire—not that the public actually owns a painting like the Mona Lisa, for example, but that anyone can reproduce that image without paying a copyright holder. Until 1978, when the copyright law was amended, the maximum term of copyright protection in the U.S. was 75 years. Therefore, any work (song, musical composition, novel, poem, painting, etc.) copyrighted prior to 1903 in the U.S. is now in public domain and free to be used by anyone. The U.S. now abides by the same copyright lifespan that Europe has been on for some time: the author's life plus 50 years. This means it is possible for material originally produced in Europe to be copyright-protected even if it was produced before 1903.

Theoretically, anything created at any time by the U.S. government is also public property. The government has vast storehouses of visual materials, from World War II film footage to NASA moonwalks. You just have to find it.

TDY 93/94 IN BRIEF

MUSIC LICENSING

Source: "Music Licensing: Paying the Piper," by Vincent Alonzo, *Meetings & Conventions,* January 1992, pp. 41-44; 57

Using copyrighted music at a meeting or training event without obtaining a license to do so can result in lawsuits, this author cautions, citing a recent campaign by the American Society of Composers, Authors, and Publishers (ASCAP) and Broadcast Music Incorporated (BMI) to advise and then warn meeting managers of the consequences of this behavior. The author explains who ASCAP and BMI are and how technology has brought the meeting industry to their attention. The fees for various types of music are described, and the author points out that the presenter is ultimately liable for those fees. Other questions are also discussed:

- What exactly are you buying from ASCAP and BMI?
- What types of performances need to be licensed?
- What if an event is closed to the general public?
- What are the penalties for nonpayment?
- What can be expected in terms of the enforcement of these copyright laws? (AN58)

MACHINE OPERATORS AS TRAINING MANUAL WRITERS

Source: "Teaching Operators to Write Training Manuals," by Katlin Smith, *Technical & Skills Training,* January 1992, pp. 8-13

Machine operators have great potential as writers of training manuals, this author claims, because not only are they the equipment experts, but they also share the same language and experiences of other operators. The author provides guidelines for preparing operators to make the transition to technical writing, and these are organized around a 4-step process: (1) preparing to write, (2) creating the manual/module structure, (3) writing the manual, and (4) producing and updating the manual. She also discusses the different activities that go into writing the manual:

- **Process and equipment description,** which answers questions about (1) intent, (2) process flow, (3) the purposes of each piece of equipment, (4) equipment/components description, (5) principles of operation, (6) instrumentation, and (7) operator control/display,
- **Clarification of operating procedures.**
- **Prioritization of troubleshooting steps,** and
- **Preparation of competency checklists.**

Once the manual is completed, it can serve many purposes: (1) classroom material, (2) reference guide, (3) crew reviews (to refresh their memories and to teach them about changes made in equipment and procedures), (4) self-assessment, (5) training needs assessment, (6) certification, (7) safety training, (8) technical archive, and (9) training media development. The author presents a profile of the operator/writer, listing 9 duties of the job and the tasks associated with each duty. (AN59)

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D. EVALUATION OF TRAINING

TDY 93/94 CASE STUDY: CUSTOMIZING A TRAINING EVALUATION MODEL

Source: "Customizing and Implementing Training Evaluation," by Catherine M. Sleezer, Denise Cipicchio, and Denise Pitonyak, *Performance Improvement Quarterly,* Vol. 5, No. 4 (1992), pp. 55-75

"One barrier that human resource managers may face in evaluating their training programs is lack of expertise in how to customize and implement an evaluation model," observe the authors. Using a case study approach, they describe the evaluation steps used by a company that manufactures high-quality technical products. The company's project team customized the Training Effectiveness Evaluation model, following these steps, some of which occurred simultaneously:

Step 1: Select the courses. (In this example, the project team selected two training courses.)
Step 2: Develop and implement company communications.
Step 3: Gather current evaluation information.
Step 4: Select decision makers.
Step 5: Gather documents on the courses.
Step 6: Customize satisfaction forms. (The project team modified the TEE satisfaction forms by changing, rewording, and adding items to reflect the organization's culture.)
Step 7: Improve learning tests. (The learning measures selected were based on the content and the objectives for each course. The project team decided to change some of the organization's usual testing methods.)
Step 8: Implement training.
Step 9: Gather satisfaction and learning information.
Step 10: Gather performance value information. (This included cost-benefit analysis and employee interviews to determine how new knowledge was applied on the job.)
Step 11: Determine training costs.
Step 12: Analyze information. (The project team analyzed the completed training program evaluation forms in the areas of (1) satisfaction measures, (2) a knowledge test, (3) application of learning on the job, and (4) possible financial benefits. The results showed that the training had little effect on performance.)
Step 13: Report results. (The team's report included critical findings and recommendations for action. The decision makers concluded that evaluation measures should be expanded to all courses. They also recognized the need to connect training more closely to organizational performance.)

The authors note that the HRD managers gained new skills in customizing and implementing an evaluation model by the end of the project. (AN60)

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TDY 93/94 IN BRIEF

VALIDATING TRAINING PROGRAMS

Source: *Validating Your Training*, by Tony Newby, Kogan Page Limited, 1992, 118 pages, £14.95

This practical, how-to-do-it book gives a step-by-step explanation of how to use validation techniques in order to strengthen the effectiveness of training. Written for professional trainers or those with training responsibilities, the book teaches the design of validation instruments to determine (1) whether the training has achieved what was intended, (2) whether the methods adopted were effective, and (3) whether the training enhanced work performance. The chapters are as follows:

1. **Getting Started with Validation.** This chapter covers the criteria for deciding how much validation is needed in one's training. The author explains the steps in the design of the validation project.
2. **Testing Knowledge.** Applications and limitations of the written test are discussed here. The author outlines 8 stages in putting together effective tests. He also describes the features of various testing techniques.
3. **Testing Interpersonal Skills.** The author explains how to develop behavior observation instruments. Self-report techniques and the repertory grid are also discussed in this chapter.
4. **Practical Tests.** Here he outlines different skill levels which may be measured. The use of in-tray exercises is discussed, as are the steps to follow in designing a practical test.
5. **General Topics.** This chapter includes how to train people for (a) behavior observation, (b) testing, and (c) validation interviews. The author presents designs for workshops on validation, he reviews the issue of attitude versus behavior in training design, and he examines the uses and limitations of end-of-course reaction data.
6. **Statistical Issues in Validation.** The author explains the importance of statistics to validation work and discusses several methodological issues. Along with providing guidance on how to analyze validation data, he outlines the use of statistics in test design. (AN61)

TRAINING EVALUATION HANDBOOK

Source: *Training Evaluation Handbook*, by Tony Newby, Pfeiffer & Company, 1992, 310 pages, $19.95

"I have come to see the element of 'strategy' as the essential correlate of 'evaluation,'" says the author, "each being equal in importance and inherently necessary to the other." Specifically, evaluation will highlight flaws in corporate training strategy, and a relevant strategy for training should result in fewer negative evaluation findings. The purpose of this book, he explains, is to provide the reader "a useful, readable guide that spells out step-by-step how to make training strategy and training evaluation work for the benefit of the reader's organization." The book is divided into 3 parts:

1. **The Role of Evaluation.** This section describes the rationale for evaluation in a training function, provides a framework of concepts, describes the benefits to the organization, and discusses the basics of training strategy.
2. **Evaluation Techniques.** The meat of the "how-to" part of the book is here. First the author outlines a 30-step plan for the evaluation project. Then, he discusses in some detail each of the primary tools used in evaluation: the questionnaire, the interview, the critical incident review, the repertory grid, action planning, reactionnaires, written tests, practical tests, behavior analysis, and cost-benefit analysis. Two appendices to this section cover the scientific design of evaluation and statistical issues in testing.
3. **Case Studies.** The final part of the book presents a number of case study examples of how evaluation can be applied to: the personal development of computer engineers, the training of trainers, job procedures, customer service, new employee orientation, outdoor development for managers, and the manager's role in training. (AN62)

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E. TRANSFER OF TRAINING

PRACTICE-CENTERED TRAINING

by Stephen Yelon and Zane Berge

Trainers must focus their attention on practice, rather than on content, in planning and delivering training. Of course, trainees must acquire knowledge to perform well and trainers must attend to content. But, if designers intend to produce competent performers, they must prepare and implement courses by focusing on specifying and organizing practice, and they must deliver a course by concentrating on the implementation of practice. Trainers must view instruction as practice-centered rather than as content-centered.

What Is Practice?

Webster's dictionary refers to practice as "systematic exercise to proficiency." Thus, we commonly use the term practice to describe perfecting a skill such as daily piano practice, or to refer to repetitious school exercises known as drill and practice. In addition, we commonly proclaim that practice makes perfect. But our daily language is full of expressions giving other connotations to the term practice. We mention practice when describing the exercise of a profession, such as legal and medical practice. We describe following a set of beliefs as the practice of religion, or pursuing a way of life as a habitual practice. We also use the phrase "theory versus practice" to differentiate between understanding an idea and being able to apply an idea. All these uses for the term practice are interesting; unfortunately, the variety of references and meanings does not help trainers.

A definition of practice as "action testing" can be used as a guide to stress practice in instruction. Think of practice as an instance of what Miller, Gallanter, and Pribram (1960) describe as the TOTE unit. TOTE is an acronym which stands for test, operate, test, and exit. When trainers ask trainees to practice, they do so to test an operation, i.e., to see if the trainees' performance meets certain criteria. If trainers note that the criteria for an operation are completely fulfilled, the trainers stop the testing; they exit. If trainers observe that the criteria are unfulfilled, the trainers guide the students to revise the operation and then they test again. Thus, the process continues: test, operate, test, and exit.

In addition, think of trainee practice as hypothesis testing, move testing, or experimenting and exploring (Schon 1987, p. 152). In this sense, practice is more than just doing. By observing trainees practice, trainers find out if trainees are acquiring the skills or ideas that have been explained or studied. For example, trainers and trainees find out if the actions trainees took to solve a problem were successful, their present definition of a principle is accurate, their writing is clear, their application of a new idea is correct, or their performance of a skill is technically sound.

There are four implications of thinking about practice as action testing.

1. Thinking of practice as action testing extends to all types of knowledge. Trainees practice concepts, facts, and principles as well as skills. They practice distinguishing examples from nonexamples, recalling sets of facts, and predicting and explaining events, as well as performing skilled actions.
2. Trainees must be prepared for practice. Trainers must be sure that trainees are able and willing to practice. Trainers must tell trainees why they practice, what to practice, how to practice, and when possible, what to observe that indicates that their performance is adequate.
3. Trainees must practice to be able to reach a particular objective, especially when the task is complex and a high level of accuracy or automaticity is required, or when the task is used infrequently by the trainee, e.g., cardiopulmonary resuscitation. Trainers must be sure that trainees are able and willing to continue to perform many times to test their actions. Trainees must know why they must continue to practice, what to continue to practice, how to revise their practice and, when possible, what to observe that indicates their performance is getting better.
4. Trainees should be able to test their own actions as they learn. At first, trainers must take the responsibility for practice. Then trainers should turn control of the practice process over to students so they may learn to plan and carry out their own real-world practice. Therefore, as one goal, trainers should instruct trainees in how to provide their own practice.

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What Is Practice-Centered Training?

There are three phases of practice-centered training. Thinking of practice as action testing suggests that trainers:

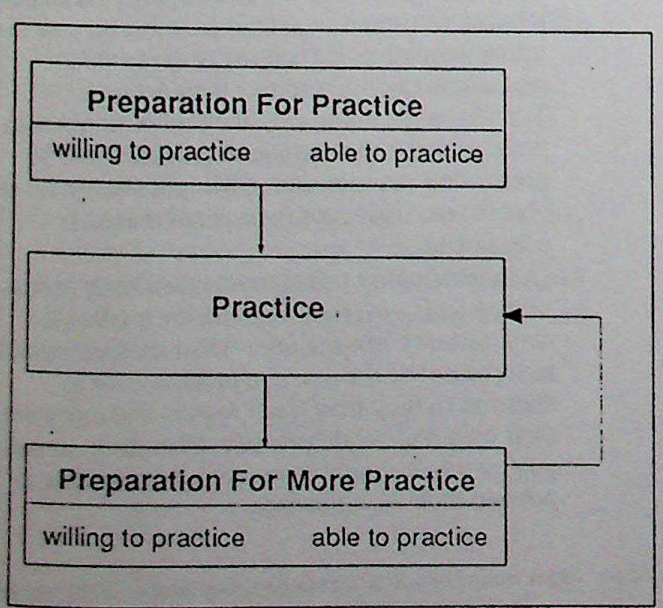
1. Prepare trainees for practice,
2. Provide practice, and
3. Prepare trainees for more practice (see Figure 1).

In preparing trainees for practice, trainers should arrange conditions so that the trainees are willing and able to practice. Trainees must know what the practice is, why the practice is being done, what the payoff will be for doing the practice, how to do the practice, and what the criteria are for a successful practice. Second, in providing practice, trainers should ask trainees to perform. Third, in preparation for more practice, trainers should coach trainees about when to stop practice and when to continue. To be willing and able to continue action testing, trainees need to know what part of their performance is according to the criteria, what part of performance is not, what to do instead, and how to make needed changes.

Trainers must be sure that trainees are able to pursue each of the three phases of practice. To be most efficient in practice, trainers must teach trainees seven things:

1. How to practice, e.g., they must rehearse a speech aloud at least four times before a graded performance
2. What criteria to apply to their performance, e.g., show them the checklist to be used to grade the final speech
3. What makes a practice, e.g., they must repeat a whole speech

Figure 1. Three Phases of Practice-Centered Training.



4. How to determine when to stop practicing, e.g., they must not hesitate and must have smooth transitions
5. How to maintain motivation and curb anxiety throughout practice, e.g., they must concentrate on the message
6. How to allow one's self to take risks and to explore possibilities, e.g., they must try to introduce at least one new item, such as a story, in each new speech
7. How to create safe simulations (Schon 1987, p. 37), e.g., they must find others who are willing to act as the audience for them

But trainees must also be willing to practice. For trainees to maintain the energy and motivation to pursue practice and to resist the pressure to stop practicing, trainers must tell trainees three things:

1. Why trainees must practice the same task several times, e.g., why they must rehearse a speech four times. Trainers might say that, because of the inherent limits on human information processing, trainees might perform multiple action tests on complex tasks in which trainees must achieve high accuracy. Trainers might explain that trainees cannot attend to and meet all the criteria and acquire all the behavior patterns required for a task, such as a speech, at once. Therefore, the repetition of multiple action testing is necessary to gradually focus a trainee's attention on critical factors and to gradually store properly organized, pertinent information.
2. The nature of automaticity. Trainers might state that automaticity is performance of a task with relatively little attention paid to it. For example, when people walk on a flat, safe sidewalk, they can turn their attention away from their walking to watching others pass by and to listen to a companion's conversation. Consequently, to lessen the amount of attention they must pay when performing, trainees must learn to attend selectively to specific cues both internal and external. (Sage 1984) To foster the development of automaticity, trainers should tell trainees that their task is to find the critical cues to note, and trainers should point out the cues to attend to and the information that trainees need to abstract, e.g., to what materials speakers need to attend as they speak and to what they should not attend as they speak (Whiting 1972).
3. The connection between practice and the trainee's immediate and long-range goals. For example, speech trainers must show how good speech making will lead to influencing people and having ideas adopted.

In practice-centered training, trainers should teach trainees to provide their own practice. Trainers should

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gradually change the structure and supervision of practice as instruction progresses so that trainees learn to practice on their own. At first, with dependent and less able trainees, trainers should take full responsibility for providing practice. But once trainees have observed how to practice adequately and have experienced complete and well-structured practice, trainers should require trainees to govern their own preparation, practice, and follow up. Generally, trainees may begin with guided, prepared practice, move through independent realistic practice, and end with professional practice. Trainees may begin with practice that is coached, move through supervised but self-initiated and paced practice, and end with self-initiated and self-paced practice in real settings. For example, trainees may begin practicing speeches in supervised groups, then move through self-and peer-evaluated speeches, and finally end training by giving a speech on the job. Thus, as instruction progresses, the structure of practice changes. Slowly the trainer changes the practice conditions, behaviors, and standards from unrealistic to realistic ones. Gradually the trainer changes the amount and style of supervision to foster self-regulation of practice.

Furthermore, once trainees reach the goal of training, they should be able to perform well and confidently in real settings and continue to develop their own competence. A final exam should require trainees to prepare themselves to perform in a realistic setting, to monitor their own performance, and to plan ways to improve their performance for their next real-world encounter. For example, a final exam might require trainees to prepare a particular speech, to give that speech, and to think aloud about the way they will prepare for the next speech. Thus, the goal of training is not only to show trainees their skill in speechmaking, but also to show trainees the practice process they will use in the professional world for becoming masters at their trades, a process they must continue to become experts.

What to Say During Practice-Centered Training

Trainers can make statements throughout all parts of instruction to emphasize practice. Note in Figures 2 and 3 what trainers might say when preparing trainees for practice, and what to say just before and after practice.

Generally, trainers make introductory comments and give explanations and demonstrations to prepare trainees for practice. Trainers should state reasons for learning the skill, realistic examples, and show enthusiasm to influence a trainee's willingness to perform as expected. Similarly, trainers provide unit overviews, explain how and when to perform, and demonstrate proper performance to increase a trainee's skillfulness at performing properly during practice. In order to prepare trainees to improve their next performance and to build confidence in performing, trainers make statements and provide activities to affect a trainee's willingness to practice again and to become even more skillful in subsequent practices. Trainers provide encouragement and give feedback and remediation both to motivate a trainee to try again and to produce better performance. Trainees who have learned to teach themselves may provide all these functions on their own.

Summary and Conclusion

Trainers should consider applying the notion of practice as action testing.

1. Prepare trainees for practice so that trainees are willing and able to do practice.
2. Respond to trainees after practice so that they continue to be willing and able to do more practice if they need it.
3. Teach trainees to govern their own practice.

If trainers center their attention on practice, they will give performance the prominence it deserves in instruction. If trainers focus on practice throughout instructional planning and delivery, trainees are likely to become competent practitioners.

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Figure 3. What a Trainer Might Say to Emphasize Practice Before and After Practice (cont.)

F. Here are the payoffs for practicing performance...(related to course and trainee's objectives and to automaticity). Here are ways to keep up your own motivation during practice...(say these things to yourself, take risks, explore possibilities, create safe simulations in which errors are OK).

G. Remember that you are trying to learn to perform tasks so that you can do them automatically. That means that, as you perform, you must look for the most important cues to attend to so that you can respond selectively and quickly. Here are the cues that I use...

II. After Practice

A. First check your own practice according to the stated criteria.

B. My turn to give feedback. These aspects were fine. Good going. Continue to do the same in future performances.

C. These aspects don't match the criteria. Here is what should have been done before and during the next practice.

D. The final exam is the last and most realistic supervised practice. Think of the exam as your last chance for supervised practice before you have an on-the-job test.

E. You will have to keep practicing on the job in the same way.

GETTING THE LEAD OUT

by Julie S. Hile

In these days of participative management, interactivity, and total quality efforts, trainers are pushing hard for classroom and OJT instructional methods that stimulate active thinking—the kind that transfers back to the job.

Most human resource professionals want to enable workers to do more than just obey the people in charge. To accomplish that goal, they must help managers and other employees practice critical thinking during training.

The first step is to stow the lecture format in the bottom of the instructional tool chest. Trainers are using more small-group exercises, role plays, simulations, learner-centered discussions, and computer based training. That list should also include the writing-to-learn (WTL) method.

The WTL Process

In its simplest form, the writing-to learn process begins when a facilitator says, "Please take three minutes to jot down everything that comes into your head when you think of the words 'customer service' (or any other topic)."

Participants pause for a couple of beats and then pick up their pens or pencils. The facilitator and participants begin writing their ideas on notepads. They write and pause. They write, write, write, and pause. The room fills with the sound of words being scratched onto paper. A lot of thinking can go on in three minutes.

A timer beeps and the three minute period is over.

"Finish the sentence you're writing," the facilitator says. "Look over what you've written and check off the two responses you'd most like to share with the group."

The facilitator then records each participant's comments on a flipchart.

What Just Happened?

Within minutes of the starting time, the participants in the session began thinking actively. They shook the ideas out of their heads and turned them into words on paper.

In the next stage, the facilitator will guide participants to reconsider their ideas in light of additional stimuli—such as more information and challenges from peers and the facilitator.

No one looked over the participants' shoulders. None of the participants received red marks for misspelling or

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poor penmanship. No one froze because he or she remembered negative writing experiences from past instruction.

It's critical that WTL not be about correct grammar or even brilliant thinking. WTL is about people gaining access to their thinking processes so that they can more confidently and clearly proceed to the next stage: learning new skills.

WTL is similar to a quick trip to the grocery store. You plan to pick up carrots, milk, bread, ice cream, and a newspaper. You make a shopping list of the items you need.

Or you're on your way to see a friend who has just moved and you jot down the directions on the map in your glove compartment.

In both cases, the quick notes help your thinking in some way. The grocery list helps you remember what to plunk into your shopping basket. The directions to your friend's house also aid your memory. If the directions include landmarks, they may help you picture the trip in your mind as you travel unfamiliar territory.

Ten Exercises

What follows are 10 workshop exercises that use the writing-to-learn concepts. Choose the exercises that work best with your training program; all can be easily adapted to your training goals and constraints.

Exercise: participant goals. In this workshop exercise, the facilitator asks participants to read the workshop objectives and then list what they themselves plan to accomplish.

Participants should number their own goals in order of importance. During the workshop, participants periodically check to see how close they are to achieving their objectives. If they feel that some areas need attention, they should tell the facilitator.

From the beginning, participants negotiate with the workshop objectives. They decide which objectives will receive most of their energy. And they decide how the workshop objectives fit with their own goals and needs.

At the end of the workshop, participants hold themselves and their facilitator accountable for the outcomes. They measure what they have accomplished against their initial goals and expectations.

Exercise: written brainstorming. In this exercise, participants brainstorm in writing for one minute about a given topic. Then they draw circles around their brainstorming ideas and write for another minute about the same topic. They pause, circle the second set of ideas, and brainstorm about the topic for a third time.

The series of circles provides visual cues to encourage participants to continue to think more deeply about the topic.

Exercise: miscellaneous notes and questions. In this exercise, the facilitator tapes to the wall a flipchart page labelled, "Miscellaneous Notes and Questions" or "Parking Lot."

Participants write down thoughts that don't fit current discussions or activities but are somehow relevant to the session. The group may later turn its attention to those concerns, or the facilitator may assure the group that the concerns will be communicated to the appropriate people.

Recording their concerns or questions enables participants to focus on the topic at hand, as long as they've received assurance that those issues will be addressed.

Exercise: definitions. In this exercise, participants write their own definitions of particular terms. Several hours later, they return to reread their definitions and revise them in light of newly learned information.

To learn textbook definitions, learners must merely memorize them. When participants create their own definitions, they must think for themselves. When they refine their definitions, they come to really understand them.

As participants reread and revise their definitions, they realize how their thinking has changed. That usually doesn't happen when they merely discuss a topic. Their written revisions more clearly show them the contrasts between how they used to think and how they think now.

Exercise: "dialoging." During this activity, each participant "dialogues" with a partner by writing on a piece of paper, which is vertically divided in half.

One person starts by writing something about the discussion topic on one half of the page. His or her partner responds by writing on the other half. They continue back and forth, writing their messages on separate sides of the page until they are done. There is one "conversation" for every two people in the session.

When people share their thoughts with others, they tend to feel an obligation to say something worthwhile. This exercise helps people overcome their anxiety about sharing ideas. Also, it encourages minority opinions to surface.

Exercise: silent discussion. For this exercise, the facilitator writes several words—chosen to elicit responses— on a flipchart or board. Then the participants write their responses, also on the board. The room is silent, except for the scratching of markers or chalk.

The silence and the writing seem to make participants think more intensely. Having to write their responses causes participants to consider them carefully. In verbal discussions, people sometimes just blurt out hunches. Many different scripts appear on the board; a strong feeling of teamwork develops. Participants work together to fill the empty spaces with ideas. Once the silence is lifted, most participants are eager to talk. The ensuing discussion tends to be lively.

Exercise: time out. If discussion in a session becomes bogged down, difficult to follow, or particularly tense, have participants pause to write down their views and their positions on any disagreements and then share them.

This silent writing exercise slows the pace and helps relieve tension. When participants record and share their views, they begin to see common areas and clarify dis-

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agreements. Often, participants discover that they agree more than they disagree.

Exercise: directions. In this exercise, participants write down directions for completing a task they have just mastered. Participants each write six different sets of directions for different audiences: a child, a colleague, their mothers, their bosses, an expert in their field, and a novice in their field.

The theory is that in order to teach a subject well, you have to learn it well. Each audience requires a different version of the directions. Writing directions helps participants clarify their knowledge about how to perform the task.

Exercise: participant menu. In this exercise, participants each make a list of questions about the application of newly learned skills and the snags that may occur. Then, in a troubleshooting session, they share what they've written.

The "menu" helps the facilitator and the group realize what participants know and don't know about the topic or task. And it helps participants take responsibility for filling in the gaps in their learning, instead of expecting the facilitator to read their minds.

Exercise: graffiti. In the final exercise, the facilitator tells participants to write graffiti on some of the workshop materials. That is, the facilitator instructs participants to cut through the sterile, factual facade of black-on-white print.

Participants may mark the margins and text with underlines, circles, highlighting marks, written questions, challenges, memories, applications, and other responses.

Such graffiti accomplishes the same thing that spray paint does on a building. It "neutralizes" the authority behind the sanctioned structure. Once that authority is divested of its power, participants are more likely to ask real questions and voice real objections. They begin personally negotiating with the ideas in the text.

This exercise provides several advantages. The facilitator discovers what participants already know or think they know about the topic, what hooks they have for learning more about the topic, and what their attitudes are toward the topic. Consequently, the facilitator can tailor the further direction of the workshop to the needs of the group.

Additional Benefits

The writing-to-learn method yields several benefits.

First of all, it requires no special equipment or facilities. The act of writing can save time in a group session, because it tends to make people carefully choose their words and get to the point. In brainstorming sessions or group discussions, people may elaborate unnecessarily or be repetitive.

Writing gets people to move ideas from inside their heads to the outside, where they can then examine, reconsider, and improve them. Once people have written down their initial ideas, they can take the energy they would have spent memorizing information and channel it instead into generating more ideas. People also tend to be less protective or defensive about their ideas once they write them down, because the ideas no longer feel like a part of them.

The writing-to-learn method helps the facilitator to manage the training. Writing is a tool that draws all participants into the learning process. No one sits idly when a group is asked to write for one minute about a specific topic.

Writing exercises can point out confused or frustrated participants so that the facilitator can give them the attention they need. Also, writing down their thoughts provides participants with a record of their thinking processes and what they've learned.

Writing-to-learn activities help keep the facilitator out of the participants' way. The facilitator is unlikely to dominate a session once he or she sees that participants know a lot and are willing to share their knowledge. The facilitator also sees that the participants' learning with and from each other is at least as powerful as their learning from him or her.

In WTL, the facilitator draws on basic skills that most people have used for years. Most important, WTL activates during training the kind of thinking that is required back on the job.

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A MODEL FOR TRAINING TRANSFER

Source: "M.A.S.S.: A Model for Producing Transfer," by Stephen Yelon, *Performance Improvement Quarterly*, Vol. 5, No. 2 (1992), pp. 13-23

"Performance technologists cannot afford to be naive about the process of transfer," says the author. "Training is too expensive." He offers a model to intentionally promote transfer of training using a variety of strategies based on known principles of human performance technology which he calls the MASS model. According to this model, trainers who promote transfer of training:

- Motivate trainees to learn and use the training material,
- Increase trainees' Awareness of when to use new skills and ideas,

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- Enable trainees to master and to apply Skills, and
- Give trainees psychological and physical Support on the job.

After discussing how to use each of the these strategies, the author gives examples of their use in 2 cases: police officers learning defensive measures, and machinists learning to use computer numerical controlled machines. (AN63)

TRAINING TRANSFER STRATEGIES

Source: *Transfer of Training: Action-Packed Strategies to Ensure High Payoff from Training Investments*, by Mary L. Broad and John W. Newstrom, Addison-Wesley Publishing Company, 1992, 194 pages, $24.75

Some sources estimate that as much as 80% of the skills and knowledge gained in training are wasted. For organizations that seek to remain competitive, there must be some effort to see that transfer of training actually takes place. In this significant book, the authors outline the problem, examine the barriers to training transfer, review the research done on the subject, and then introduce the "Transfer Matrix," which gives on the vertical axis the role-players (manager, trainer, and trainee) and on the horizontal axis the time periods when transfer strategies are used (before, during, or after training). The core of the authors' contribution is found in 4 central chapters:

5. Transfer Strategies Before Training
6. Transfer Strategies During Training
7. Transfer Strategies Following Training
8. Relapse Prevention: A Special Action-Planning Strategy During Training

For each of these chapters, the authors discuss strategies which can be used by each of the role-players—manager, trainer, and trainee. For example, a manager strategy during training might be to transfer work assignments to others during training, so the trainee does not return to a work backlog which would discourage him from trying the newly-learned, but still tentative, skills. A posttraining strategy for the trainer might be to develop and administer recognition systems. In all, the book identifies and discusses 79 different strategies, many of which are for the trainee's manager or supervisor to employ. The authors include a special 5-step "relapse prevention module" which trainees work through near the end of the training program. Its steps are: (a) recognize that lapses are inevitable, (b) identify predictable problem areas related to relapse indicators, (c) analyze available coping skills, (d) plan and conduct "fire drills," and (e) follow-up back on the job. The book concludes with case studies from Yellow Freight System and Hughes Training, Inc., and a chapter on building and managing the transfer system. Appendices include an outline of the strategies discussed, behavioral processes underlying transfer, a transfer audit process, a glossary, and a bibliography. (AN64)

F. PERFORMANCE MANAGEMENT

WHAT IS HUMAN PERFORMANCE TECHNOLOGY?

by Harold D. Stolovitch and Erica J. Keeps

TDY Editor's Note: The following is Chapter 1 of the important new Handbook of Human Performance Technology. An abstract of the entire contents of the Handbook is in the following "In Brief" section.

Human Performance Technology (HPT) is a field of practice that has evolved largely as a result of the experience, reflection, and conceptualization of professional practitioners striving to improve human performance in the workplace. It is a relatively new field that has emerged from the coalescing of principles derived from the carefully documented practice of thoughtful behavioral psychologists, instructional technologists, training designers, organizational developers, and various human resource specialists. HPT possesses a base of research and theory but, as a rapidly evolving professional field, its practice frequently outpaces its research and theoretical foundations.

The major purpose of this chapter is to introduce HPT as a significant applied field whose aim is the achievement of valued human performance in the workplace. It presents the field as an evolving one actively seeking to define itself. The chapter is divided into four major

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sections. The first presents HPT as a term, exploring the meanings of the words that serve to identify it. The second examines HPT more epistemologically, ultimately focusing on it as a concept with a specific and unique set of critical attributes. The third explores the relevance of HPT for persons concerned with organizational effectiveness and productivity improvement. The fourth raises some questions and concerns about the field and provides answers to each of these. The chapter concludes with an invitation to those whose professional concerns and practice encompass organizational development, personnel management, human factors engineering, training, and human resource development to explore this emerging technology aimed at improving human performance.

Human Performance Technology: The Term

Generally, HPT is referred to and spoken of without the word *human*. It is understood that the focus of this field of application is on human performers in organizational and work settings. *Human* is emphasized here, and throughout the handbook, to clearly underscore this focus. HP technologists deal with the performance of people operating within results-oriented systems.

The word *performance* is one that tends to disquiet persons who first encounter it in the serious setting of the workplace. At first glance, it appears to suggest something theatrical, rather than substantive; yet *performance* is an appropriate term for this technology. The word *performance* also denotes a quantified result or a set of obtained results, just as it also refers to the accomplishment, execution, or carrying out of anything ordered or undertaken, to something performed or done, to a deed, achievement, or exploit, and to the execution or accomplishment of work.

Nickols (1977, p. 14) defines performance as "the outcomes of behavior. Behavior is individual activity whereas the outcomes of behavior are the ways in which the behaving individual's environment is somehow different as a result of his or her behavior." Gilbert (1974), in the same vein, equates performance with "accomplishments" that we value. We may even link the term back to Ryle's (1949) use of the term *achievements*, which he employs to describe the effects of behavior related to the term *performance*. Outcomes, accomplishments valued by the system, achievements—these are the concerns of HPT.

The word *technology* also often rings discordant in the ears of human resource professionals, for whom the term conjures up mechanistic images. But technology is not machinery; in its origins, it is essentially referred to as the scientific study of practical matters. Recently, the term has been used increasingly to refer to the application of procedures derived from scientific research and practical experience to solve practical problems (Clark and Sugrue, 1990; Hawkridge, 1976; Stolovitch and LaRocque, 1983). When joined with the word *performance* and introduced into the workplace, it connotes objectivity and systematic procedure. It suggests the application of what is known about human and organizational behavior to enhance accomplishments, economically and effectively, in ways that are valued within the work setting. Thus HPT is a field of endeavor that seeks to bring about changes to a system, in such a way that the system is improved in terms of the achievements it values.

Where Does Human Performance Technology Come From?

HPT is one of the many offspring of general system theory, applied to organizations. It conceives of a system as "a complex grouping of human beings and machines for which there is an overall objective" (Checkland, 1972, p. 91). HP technologists take a systemic (total system) approach to performance analysis and change, as opposed to making piecemeal interventions. HP technologists adopt a holistic viewpoint toward performance problems, which means that they examine any given problem (defined as a gap between desired and actual states) within the broader context of the subsystem in which it is situated, other interacting subsystems, and ultimately, the overall system where it occurs. This does not suggest that, for every problem, HP technologists endlessly examine all systems, in an exercise that lasts forever. It does mean, however, that each performance problem is studied in relation to the more global aims of the setting within which it is identified. Study extends to settings beyond the immediate place of occurrence, if the performance of these other settings is (or eventually will be) significantly affected by the problem or by its solution.

While HPT is concerned with systems, it is not generally conceived of as applying to all systems. It is a technology that has application to results driven, productivity-oriented systems (as opposed, for example, to social systems). This makes HPT particularly valuable for business and industry, where organizational purposes and goals are generally clearly defined.

HPT also has its roots in behaviorism and is often seen as an offshoot of the programmed instruction movement. Ainsworth (1979, p. 3) critically suggests that "what theory does propel performance technology is still closely allied to programmed instruction theory." HPT is concerned with measurable performance and the structuring of elements within the system to improve performance. The HP technologist must identify and analyze stimuli within the system that may affect performance, responses that are emitted, and the consequences of those responses (rewards and punishments) in order to uncover root causes of performance inadequacy. Once this is done, he or she can go on to define observable and measurable performance objectives. According to Ainsworth (1979, p. 5), "A cornerstone of performance technology is outcome signification—discovering valid, useful performance objectives and stating them in terms that are easily

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understood." Suitable interventions are designed to effect change, and these are monitored and modified until the system attains the required level of measurable performance.

HPT also carries with it a number of underlying assumptions and attributes. These have been well articulated by Geis (1986). What follows is a summary of key points:

1. Human performance is lawful and can often be predicted and controlled.
2. Knowledge of human behavior is limited, and thus HPT must rely on practical experience as well as scientific research.
3. HPT draws from many research bases while generating its own.
4. HPT is the product of a number of knowledge sources: cybernetics, behavioral psychology, communications theory, information theory, systems theory, management science, and, more recently, the cognitive sciences.
5. HPT is neither committed to any particular delivery system nor confined to any specific population and subject matter area. It can address any human performance, but it is most commonly applied within organizational and work settings.
6. HPT is empirical. It requires systematic verification of the results of both its analysis and intervention efforts.
7. HPT is evolving. Based on guiding principles, it nevertheless allows enormous scope for innovation and creativity.
8. Although HPT cannot pretend to have generated a firm theoretical foundation of its own, the theory- and experience-based principles that guide it are molded by empirical data that accumulate as a result of documented, systematic practice. In many ways, HPT shares attributes with other applied fields (management, organizational development, medicine, psychiatry).

A number of authors have attempted to define HPT. Some have emphasized process and methods: "Human performance technology is a set of methods and processes for solving problems—or realizing opportunities— related to the performance of people. It may be applied to individuals, small groups, or large organizations" (National Society for Performance and Instruction, cited in Rosenberg, 1990, p. 46). For Benefit and Tate (1990), "[Human] Performance Technology is the systematic process of identifying opportunities for performance improvement, setting performance standards, identifying performance improvement strategies, performing cost/benefit analysis, selecting performance improvement strategies, ensuring integration with existing systems, evaluating the effectiveness of performance improvement strategies, [and] monitoring performance improvement strategies." For Jacobs (1988, pp. 6-7), "Human performance technology represents the use of the systems approach in a number of different forms, depending upon the problem of interest and professional activity required."

Other authors have focused on the end result: "The purpose of [human] performance [technology] ... is to increase human capital, which can be defined as the product of time and opportunity... technology is an orderly and sensible set of procedures for converting potential into capital" (Gilbert, 1978, pp. 11-12). For Harless (cited in Geis, 1986, p. 1), "Human performance technology is the process of selection, analysis, design, development, implementation, and evaluation of programs to most cost-effectively influence human behavior and accomplishment." Rosenberg (1990, p. 46) has been more concerned with positioning: "The total performance improvement system is actually a merger of systematic performance analysis with comprehensive human resource interventions. And the science of linking the total system together is known as human performance technology." Foshay and Moller (in Chapter Forty-Two of this book) stress relevance and range in their definition of Human Performance Technology, seeing it as structured primarily by the problem of human performance in the workplace and as drawing from any discipline with prescriptive power for solving human performance problems, as well as from other applied fields. For them, this range constitutes the field's uniqueness. While no single definition commands universal agreement, consensus as to its critical attributes appears to have formed.

HPT is systematic. It is organized, rigorous, and applied in a methodical manner. Procedures exist that permit practitioners to identify performance gaps (problems or opportunities), characterize these in measurable or observable ways, analyze them, select suitable interventions, and apply these in a controlled and monitored manner.

HPT is systemic. It perceives identified human performance gaps as elements of systems, which in turn interface with other systems. It rejects accepting apparent causes and solutions without also examining other facets of the system. Performance is seen as the result of a number of influencing variables (selection, training, feedback, resources, management support, incentives, task interference), all of which must be analyzed before appropriate, cost-effective interventions are selected and deployed.

HPT is grounded in scientifically derived theories and the best empirical evidence available. It seeks to achieve desired human performance through means that have been derived from scientific research, when possible, or from documented evidence, when not. It rejects enthusiastic, unsubstantiated interventions that cannot demonstrate firm theoretical foundations or valid performance results. HPT is open to new ideas and potentially valuable methods or interventions. It requires, however, that these offer systematically organized evidence to support their potential value.

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HPT is open to all means, methods, and media. It is not limited by a set of resources or technologies that it must apply. On the contrary, human performance technology is constantly searching for the most effective and efficient ways to obtain results at the least cost.

HPT is focused on achievements that human performers and the system value. It seeks bottom-line results—or, as Gilbert (1978, p. 17) characterizes these, valuable accomplishments, "worthy performance." The focus is not on behavior or on one-sided winning. HPT has worthy performance as its aim, as perceived by both the performer and the organization in which she or he performs.

HPT, therefore, is an engineering approach to attaining desired accomplishments from human performers. HP technologists are those who adopt a systems view of performance gaps, systematically analyze both gap and system, and design cost-effective and efficient interventions that are based on analysis data, scientific knowledge, and documented precedents, in order to close the gap in the most desirable manner.

Why Is Human Performance Technology Relevant to Organizations?

Because HPT adopts a systems view of organizations, rather than operating piecemeal, it seeks to link the actions and interventions of all the organizational elements that affect overall performance (Rummler and Brache, 1988). In this way, selection, training, feedback systems, incentives, and organizational design may all be woven into the performance fabric. Departments such as training, which are frequently viewed as creating costly interventions that eat into profits and remove personnel from their posts (where they are, to some degree, productive), now show up as playing critical roles in improving organizational productivity.

The systematic approach to performance improvement also offers benefits to organizations. The orderliness of the technology, the objectivity and care with which analysis, design, and evaluation procedures are conducted, and the linking of training, environmental redesign, feedback systems, or incentive systems to measurable performance build credibility and buy-in for the interventions that are applied.

Since HPT is founded on solid scientific, theoretical, and empirical bases, it provides a coherent approach to the solution of performance problems, as opposed to the more eclectic stances and procedures adopted by most departments of training and human resource development. The foundations of the field permit all interventions undertaken by those subscribing to HPT to gather a uniformity of purpose, without sacrificing flexibility. HPT seeks optimal solutions, regardless of their appearance.

Given a performance problem, the HP technologist's usual first step is to conduct a performance analysis, in which performance discrepancies are brought to light before any attempt at solution is made. Consequently, the HP technologist is more cause-conscious than solution-oriented and, in his or her proposed alternative interventions, will primarily seek to eliminate causes of performance discrepancy, rather than overcome them (elimination is generally a less costly and less time-consuming activity than construction of interventions).

The bottom-line orientation of HPT makes it particularly credible to money-conscious decision makers. Performance analysis, fundamental to HPT, includes as basic the assessment of costs for alternative means of overcoming performance gaps, including the costs of not overcoming them. Gilbert (1978), probably the leading thinker in HPT, has devised what he calls the "performance audit" as a procedure for conducting a performance analysis. This audit is conducted in seven stages:

1. Identify accomplishments (what the system is currently accomplishing)
2. Identify requirements (what the system needs to have done)
3. Identify exemplary performance (what the realistic potential is)
4. Measure exemplary performance
5. Measure typical performance
6. Compute the potential for improving performance (the discrepancy between exemplary and typical performance)
7. Translate this potential into stakes (a measure of economic potential: the savings or improvement that can be expected from improvement to exemplary performance)

What is interesting in Gilbert's approach is that poor performance is cast in a positive light, as offering great potential for economic gains. What is also noteworthy is that if the stakes are insufficiently high, the performance discrepancy may be left until it becomes economically viable to reduce it. Others (Rummler and Brache, 1988; Swanson and Gradous, 1988) have devised similar procedures that address organizational concerns for cost containment.

HPT also adopts a rational, logical, and transparent approach to performance improvement. With its systems orientation, it requires that thorough performance analyses be conducted to identify all factors contributing to the current level of performance. It requires a precise statement of the mission(s) of the system in which improved performance is being sought. If there are incompatibilities at the mission level (say, healthy workers and highly productive workers in a poorly ventilated asbestos-fiber plant), then the performance technologist will first focus on the problem area. If the mission is accepted by all, alternative solutions are elaborated and objectively analyzed for costs and benefits. The process is reasoned and data-driven. In fact, because all relevant factors must be taken into account, it is highly participative: data are collected directly and indirectly from all who are involved. It is an honest and transparent approach to improving performance.

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HPT has a close kinship with instructional technology. In fact, as Rosenberg (1982) points out, in many ways it evolved from instructional technologists' realization that instructional or training systems were ineffective or inappropriate if other factors were not attended to. What has occurred over time is the movement of HPT to a position in which it generally seeks to avoid training solutions. While this may appear discomfiting at first, closer examination reveals the reasoning behind this stance.

Training is generally expensive, not only from the perspective of development and delivery but, even more important, because time must be taken off the job by those undergoing training. If performance can be improved by less costly means (for example, elimination of incompatible tasks, introduction of feedback systems, design of job aids), a higher cost-benefit ratio can be derived. Similarly, if more fundamental issues are at stake, such as counterproductive organizational structures or incompatible organizational processes, then these must be attended to through organizational redesign or strategic alignment, before investments in training can achieve desired results. This form of thinking tends to build greater confidence in the HPT approach among decision makers. It can also result in the more ready acquisition of adequate training funds for those instances in which training is the optimal solution.

Finally, the language of HP technologists is highly compatible with that of many organizational decision makers. The approach taken by the professional utilizing HPT is not unlike that of the prudent investor or company director. Systems thinking and concern about measurable benefits are common to many industrial and economic arenas. The professional who considers investments for solving human performance problems in terms of payback periods, costs and benefits, and return on investment is likely to find organizational decision makers more open to the interventions that are proposed.

Questions and Concerns About HPT

HPT is still a relatively unknown field to the majority of human resource professionals, organizational developers, and corporate senior managers. When they are introduced to HPT, its nature and approach are bound to raise questions and concerns. What follows is an attempt to respond to each of these.

Why does HPT appear to employ a specialized and somewhat mysterious jargon? It is true that some human performance technologists have created specialized terms to refer to specific concepts or procedures that they have invented. However, the general vocabulary of HPT has mostly been drawn from other fields, such as accounting, behavioral and cognitive psychology, education, engineering, and ergonomics. With HPT's close relationship to instructional technology, many of the terms and tools utilized by professionals in these other fields have also become part of HP technologists' verbal repertoire. In recent years, certainly, systems analysis, computer technology, and human factors engineering have had strong effects on the HPT field and consequently on its vocabulary. Growing interest in the tools and techniques of measurement and evaluation, quantitative business analysis, artificial intelligence, and information systems technology has also left its imprint. HPT is not so much jargon-generating as it is perpetually going through a process of assimilating others' technical vocabularies while it seeks richer resources to help improve human and hence system performance.

As a "technology" is HPT mechanistic and dehumanizing? No. HPT is essentially concerned with *human* performance. Its concern, however, is rational, rather than ideological or emotional. HP technologists are very aware of the individual nature of human motivation, goal orientation, and value systems. Where these are defined as essential to the mission or missions of a system, they are given priority. Where they are not so defined, they remain of critical importance in prescribing changes for the system. Improvement of a system that relies on human performance must maintain the strongest respect for the human being, if it is to continue effectively. Organizations in which productivity is high and quality is maintained are those where morale, employees' self-esteem, and workers' satisfaction are also at a high level. It is not axiomatic that what is good for the company is necessarily evil for employees. Excellent performance often translates into greater job security, improved salaries, and an overall high level of interest and satisfaction in one's employment. Pride of performance in the workplace is still an important value for most workers. HPT, far from being mechanistic and dehumanizing, attempts to affect systems in ways that foster both worthy performance and individual self-worth.

Is HPT intolerant of other approaches to achieving desired human performance? HPT requires a clear definition of a system's mission, its strategic plan, measurable indices of actual and desired outcomes, and consideration of the cost of each intervention, relative to projected benefits. As a result, HPT practitioners manifest intolerance only toward those who disregard the results that the system must produce, or who make arbitrary decisions that cannot be supported by a clear data base. Similarly, HP technologists become uncomfortable when faced with interventions that appear to spring more from the ideologies and interests of their proponents than from documented needs of performers—needs that the workplace has also designated as relevant to the organization's overall mission. HPT, however, is far from being closed or intolerant or considering itself complete (Hutchison, 1990). It has consistently remained open to new technologies and theory bases. Many HP technologists are following, with interest, developments in such areas as cognitive psychology, brain research, organizational design, and artificial intelligence, to name only a few. Nevertheless, HPT remains cautious about accepting approaches or innovations that

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still lack well-documented empirical evidence of their effectiveness.

Is HPT too management-biased because of its results-driven orientation? HP technologists are usually brought into contact with a performance gap via management. Therefore, the HP technologist must report back to management. But data on performance or the lack thereof are collected from actual performers, for whom interventions are designed. Job aids, feedback systems, training courses, or incentive systems cannot possibly be effective if the characteristics and value systems of performers are not taken fully into account (Tosti and O'Brien, 1979; Stolovitch and Lane, 1989). In the work place, the performance valued by the employer must be the prime consideration, but this does not exclude careful analysis of employees' goals and motivations. The ideal intervention—which often results in increased freedom and initiative for the performer, as well as greater sensitivity to personal style—is one that favors management and the individual employee or performer equally.

Can only those who have had extensive formal training in HPT employ its principles? Like any field, HPT requires careful study, practice, and feedback, which are characteristics of most formal training programs. However, the purpose of this chapter is not to form professional HP technologists. Rather, its intent is to encourage a wide range of professionals to explore the view points and tools of HPT. This should help improve their own performance and ultimately have a positive effect on organizational performance through utilization of relevant portions of this growing field.

Articles abound, particularly in such journals as *Performance & Instruction* and *Performance Improvement Quarterly*, the official publications of the National Society for Performance and Instruction (NSPI). The remaining chapters of this handbook will certainly aid the reader in gaining greater knowledge of and insights into the field.

Seminars and workshops by many of the authors featured in this volume are generally well structured and informative and provide ready-to-use skills for participants. Conferences on HPT, such as those held annually by NSPI, are also useful events for learning about the field and its applications, and, more important, for sharing experiences in informal, after-session conversations . Via reading, formal workshops, conferences, and information and experience sharing, HPT can become readily accessible to the interested person.

Conclusion

There is little doubt that HPT adopts a hard-nosed and highly objective approach to improving human performance. HPT takes into consideration the cost of any intervention to improve human performance. It views these costs as investments that must yield returns valued by the investing system. HP technologists do not define what these returns should be; the system does this. However, once the purpose of the system is defined and returns are overtly specified, HPT demands systematic and objective study of the performance problems. Its point of reference is worthy performance—as determined by the system. If HP technologists, trainers, human resource specialists, and other professionals and managers cannot demonstrate effectiveness in terms that the system in which they operate values, then they must not be surprised when their departments experience heavy budget cuts, are maligned, or become dumping grounds for persons whose contributions to the system are no longer judged useful.

HPT is a powerful, emerging field that has the potential to offer organizations astonishing benefits. As Blount (1980, p. 16) writes, "I believe that the untapped and unapplied proven potential for improvement in our business, in our people, in our products, in our service, in our customer relations, through human performance technology is absolutely awesome." Improved human performance can result in dramatic increases in productivity and workers' satisfaction—and that is what HPT is all about.

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WHITHER PERFORMANCE TECHNOLOGY?

by Joe Harless

I am a little confused. I am a little chagrined. I am chagrined because I might be confused about a fundamental thing: What IS Performance Technology?

This is not good because I call myself a Performance Technologist. I always thought a technology was a systematic *methodology* for achieving a practical *purpose*. And, at some level of detail, technologists follow a common *process* and employ some close approximation of a common *language*.

My behaviorism roots conditioned me to observe what people do rather than what they say they do.

Tom Gilbert taught me to give more value to what people *produce* ("accomplish") than what they do or know.

I learned from observation of other technologies (medicine, engineering, plumbing, building the Tower of Babel, etc.) the wisdom of common purpose and agreeing on definitions.

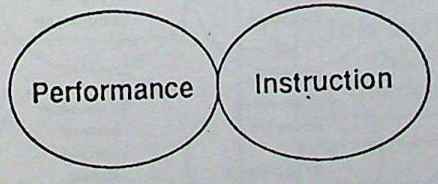
I get confused when people who say they are Performance Technologists seem to differ on meanings of terms such as *performance, need, training, job aids, behavior, evaluation*, and the like.

I get confused when people say they are Performance Technologists, but always *produce* training/informational/educational type interventions for every project. This confuses me because examination of more than 300 Diagnostic Front-End Analyses done by our company and by our clients showed the information/training/education class of intervention was the *least* frequent category recommended. Were we biased? Ignorant?

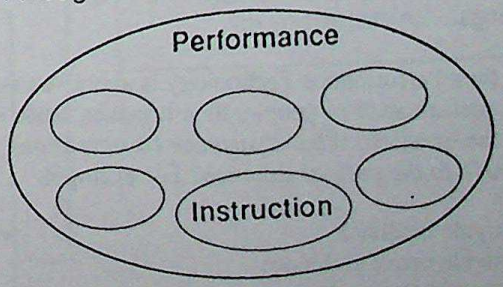
I get confused when everyone (well, most everyone) says we ought to do Front-End Analysis/Needs Assessment, but the most frequent first question in a project is: What *training/information/education do they need*? This confuses me because I thought that FEA/NA were about determining problems, causes, and solutions, and, that a lack of skills/knowledge was NOT assumed.

Alas, I am even more confused about the name of Performance Technology's home base, the National Society for Performance and Instruction. The part that puzzles me is the *and instruction*. Is this the linguistic and systems equivalent of the *National Society of Transportation and Bicycles*?

The name implies:



I thought Performance Technology to be:



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Perhaps a common cause of the above confusions is that I am wrong about the goal, desired accomplishments, relevant behaviors, and possible interventions of Performance Technology—in fact, that I misconstrue the definition of the term.

Perhaps a common cause of the above confusions is that we are *proposing* what we really-oughta-wanna do and produce (thanks, Bob Mager), but have not evolved organizationally/politically/technically to the point where we can.

I suspect it is the latter, but first I want to make sure I'm not misconstruing.

Let's see now, a good place to start my self-examination is at the end—What is the PURPOSE of Performance Technology? That is, what is its fundamental GOAL? Speaking only for myself, I'd always figured it was:

> *To assist humans to do and accomplish things that are compatible with worthy societal, business, and personal goals.*

So, I think we are focused on PEOPLE, and focused on their PERFORMANCE (do and accomplish), and driven by GOALS.

If, in fact, Performance Technology is "goal-driven," then it makes sense that an early step in the *methodology* ("process") of Performance Technology is to address the question: *What is the basic business/personal/societal goal relevant to the current situation*? For example:

- Profits
- Safe environment
- Satisfied customer
- Defense
- Health

If, in fact, Performance Technology is "performance based," then it makes sense that the next general step in the process is to address the question: *What accomplishments and behaviors should people produce and do compatible with the goal*? For example:

- Produce sales by doing these things...
- Produce decisions by doing these things...
- Produce products by doing these things...
- Produce customer service by doing these things...

If, in fact, Performance Technology is about "assisting" the performance of people, then it makes sense to address the question: *What assistance (intervention) is RELEVANT to the present situation*? For example:

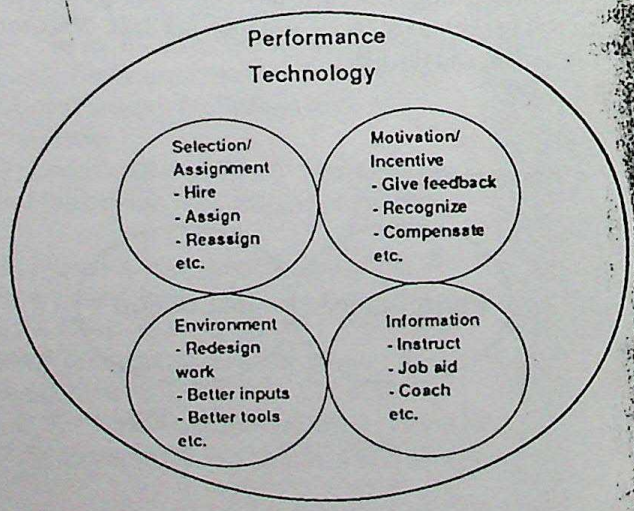
- Provide feedback
- Provide better ambience
- Reassign the worker
- Give better tools
- Increase compensation
- Give control over pace
- Redesign the work
- Reduce workload
- Allow more time
- Provide job aids
- Reassign the work
- Increase criteria
- Empower the worker
- Give better inputs
- Provide recognition
- Give instruction
- Coach on the job
- Remove hazards

The key word is RELEVANT. I believe Performance Technologists should NOT assume any one or combination of the above interventions, but have as part of the process a way of generating which one or combination of interventions is appropriate for the performance and situation in a given project. (I call this "Diagnostic Front-End Analysis" when a project involves current performance. I call this "New Performance Planning Front-End Analysis" when there are new accomplishments and behaviors to be produced.)

There are scores of possible specific interventions, but I find it useful to think of any intervention on performance in four classes:

1. Provide INFORMATION
2. Change ENVIRONMENT
3. Change MOTIVATIONAL/INCENTIVE conditions
4. SELECTION/ASSIGNMENT of personnel

Though there are specific instances where the categories are not discrete, the four classes give me a model for visualizing Performance Technology. It might not be useful to anyone else, but this is the picture in my head:



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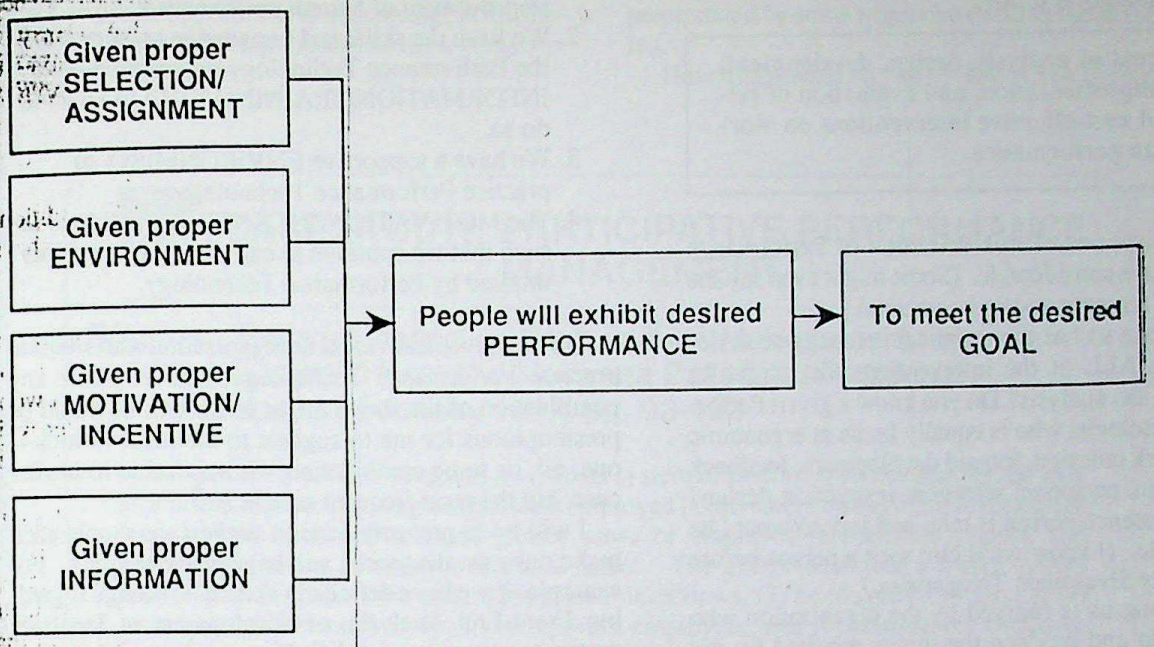
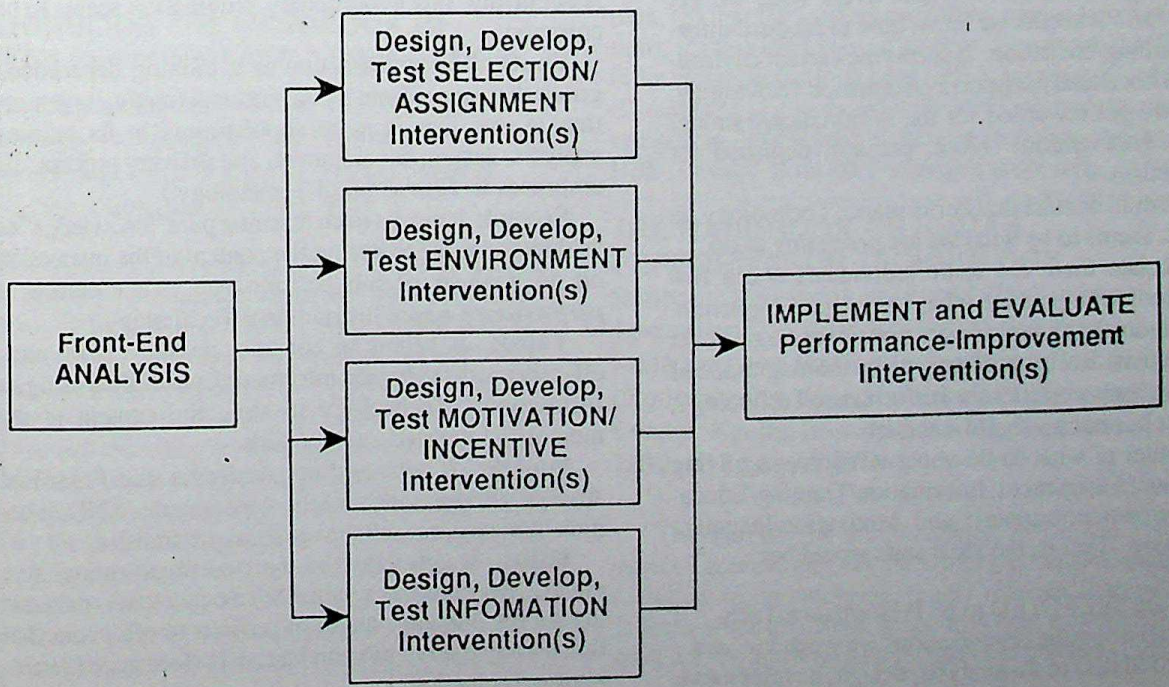
I then know in general terms what the ideal progression is when we've succeeded:



In theory, the ideal progression happens in the sequence shown (left to right). The point I'm laboring to make is that the Performance Technologist should ANALYZE in reverse of the progression—right to left. If so, we get the key front-end steps of Performance Technology:

1. Clarify the basic GOAL of the organization involved in the project.
2. Analyze the desired and then the deficient or new PERFORMANCE relevant to the goal.
3. Determine the appropriate INTERVENTION(s) to take.

If, then, the three steps above represent the ANALYSIS phase of the Performance Technology process, what next? If we are guided by a "technological" philosophy, the subsequent phases are to DESIGN and then DEVELOP, then to TEST, then to IMPLEMENT, then to EVALUATE the intervention(s) called for by the analysis:



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Given all this, I think I'm now clear on what Performance Technology is to ME:

> **The process of analysis, design, development, testing, implementation, and evaluation of relevant and cost-effective interventions on worthy human performance.**

The implications of this definition of Performance Technology are considerable. (Some might even say the definition is arrogant and/or impractical.)

Who among us has the technical competence to design/develop ALL of the interventions that might be called for by the analysis? Do you know a given Performance Technologist who is equally facile at ergonomic changes, work redesign, job aid development, feedback system design, personnel selection, instruction design? Such a renaissance person is rare, and indeed would be quite valuable. (I know we'd hire such a person before you could say Sivasailam Thiagarajan.)

Who among us is charged by the organization who pays us to do and produce the things required by my definition of Performance Technology? Trainers sell training. They are usually *commanded* to do so, and are rewarded for the volume of training developed and delivered. Educators are conditioned to teach "subject matter," not to impact performance. Most vendors hawk a given product, not a process. Buyers typically want to buy things, not analysis. Our letterheads read *Training Department*, or *Educational Center*; or *Learning, Inc.* etc. The names of our organizations do not imply: *Performance-Improvement sold here*.

We tend to do what we know how to do. We can only do what the environment allows us to do. We tend to do what we'll get rewarded for (and avoid what we get punished for). It seems we know how to produce information/training/education. It seems the current environment does not usually support Performance Technology. It seems we get rewarded for the information/training/education intervention. (And, perhaps, punished for anything else.)

It is no small wonder that Performance Technology, as I define it, seems to be what we are *proposing* to do.

I appreciate there are some individuals and a few organizations who practice what I am preaching herein. There are more than a few who are practicing a significant approximation. But by and large, given the magnitude of the need and opportunities for Performance Technology, our impact has been a shallow scratch.

The matter of what-to-do-about-it involves applying the Selection/Assignment; Information/Training/Education; Environment support; and Motivation/Incentive interventions. That is, the ideal state would be:

1. We are SELECTED to be Performance Technologists by the organizations we work for, and ASSIGNED to do analysis, design, development, testing, implementation, and evaluation for the improvement of human performance.
2. We have the skills and knowledge to carry out the Performance Technology progression—the INFORMATION/TRAINING/EDUCATION to do so.
3. We have a supportive ENVIRONMENT to practice Performance Technology.
4. The MOTIVATION/INCENTIVE conditions are such that we continue to carry out the behaviors implied by Performance Technology.

For any given individual or organization who wants to practice Performance Technology, one or all or any combination of the above might be absent. It would be presumptuous for me to suggest to the reader which—one, all, or some combination—is applicable to his/her case, but the most frequent case is ALL.

I will be so presumptuous to suggest we should each make our own diagnosis, and behave accordingly. For example, if we have deficits in skills/knowledge regarding Front-End Analysis, or development of feedback systems, or process simplification, or design of instruction, etc., then we need to remedy this by reading, attending workshops in these special ties, attending NSPI conferences, and so forth.

Remedying deficits in skills/knowledge relevant to Performance Technology is not an easy thing because of the magnitude of the behaviors under the umbrella of Performance Technology. But it is easier than removing/minimizing the other barriers (Selection/Assignment, Environment, and Motivation/Incentives) to practicing Performance Technology. There's the rub.

When I've examined the handful of situations where a significant approximation of Performance Technology is occurring, this evolutionary progression seems to be common:

First: The organization is a training department/group that grows from a conventional training organization to one that is more sophisticated in its training analysis, design, development, and delivery process. (It embraces an *Instructional* Technology.)

Second: It moves from teaching pure "knowledge" or "subject-matter" to basing the content of the instruction on an analysis of job performance. (It embraces a *performance-based* Instructional Technology.)

Third: It begins to consider possibly more cost-effective ways to handle information needs than using an Instructional Technology to store the content in the memory of the student—job aids.

Fourth: It adds and emphasizes a true Front-End Analysis/Performance Needs Assessment. AND, it begins to measure results in terms of job transfer.

Fifth: It gets close to the line organizations (the client), and becomes a valuable resource that is called in during the planning stages of projects to offer consultation on any intervention on human performance (Performance Technology).

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I vacillate about whether the above evolutionary progression *must* occur, or whether some approximation of a revolution has an opportunity of succeeding. A *revolution*, for example, would leap from the initial level above to the fifth in one step.

Revolutions, historically, spring spontaneously from the enslaved/hungry/oppressed nonestablishment, often precipitated by some triggering event to signal the uprising.

How disgruntled are we? What will be the signal?

TDY 93/94 CASE STUDY: PARTICIPATIVE PERFORMANCE MANAGEMENT

Source: "Revamp Ineffective Performance Management," by Sandra O'Neal and Modonna Palladino, *Personnel Journal*, February 1992, pp. 93-102

When a Midwest firm sought to revamp its system of performance management, it took an unusual approach: it sought significant employee involvement through employee design teams. The result was a much greater sense of employee responsibility, input, and commitment to the company's financial future. The author describes a 6-step system assessment: (1) paperwork audit, (2) personal interviews, (3) employee focus groups, (4) employee opinion survey, (5) survey report to employees, and (6) post-survey employee focus groups. Then the company performed a "gap analysis" to see what in the performance system ought to be changed. What they came up with was a program for: (a) accountability for work outcomes, not just work behaviors, (b) mutual planning, (c) increased feedback, (d) performance which was planned and managed, not just evaluated, (e) performance linked to the business plan, (f) direct rewards for success, and (g) wide participation by employees. The entire project was completed in just 7 months, the authors report. (AN65)

TDY 93/94 IN BRIEF

INTRODUCING THE HANDBOOK OF HUMAN PERFORMANCE TECHNOLOGY

Source: "Handbook of Human Performance Technology: A Manifesto," by Harold D. Stolovitch and Erica J. Keeps, *Performance & Instruction*, February 1992, pp. 9-13

The forthcoming *Handbook of Human Performance Technology*, say the authors, represents "the culmination of almost 40 years of reflection, professional activity, research, writing, and organized thinking of some of the most active pioneers in the field." The *Handbook* will be published by Jossey Bass in April, and it will include contributions from 64 authors. The article is divided into 4 sections: (1) a rational for the creation of the *Handbook*, (2) a preview glimpse of its organization and contents, (3) hints for the *Handbook's* potential readers and users, and (4) a synthesis of what the *Handbook* editors consider to be some of the major messages presented by the volume. They believe these messages are: (a) that human performance technology (HPT) is a field that has come into its own, (b) that HPT offers something unique to organizations, (c) that HPT is itself an open system, (d) that HPT is not simply eclectic, (e) that HPT is a cutting-edge field, (f) that HPT is concerned with developing professional, competent, ethical practitioners and scholars, and (g) that HPT is aware of its need to evolve more fully. (AN66)

THE HANDBOOK OF HUMAN PERFORMANCE TECHNOLOGY

Source: *Handbook of Human Performance Technology: A Comprehensive Guide for Analyzing and Solving Performance Problems in Organizations*, edited by Harold D. Stolovitch and Erica J. Keeps, Jossey-Bass Inc., Publishers, 1992, 817 pages, $75

"The purpose of the *Handbook of Human Performance Technology*," say the editors, is "to announce the existence of an emerging, highly relevant field, and to express what this field is about, where it comes from, what it does, and how its principles and practices can very

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significantly benefit organizations that seek outstanding results." This *Handbook* is the first comprehensive collection of thoughts, recorded practices, and professional wisdom for the group of people who call themselves human performance technologists. The hefty volume begins with Thomas F. Gilbert, ends with Robert F. Mager, and in between is filled with chapters authored by the best in the field. The book will doubtless be widely used by HP technologists, by HRD specialists, and as a textbook in courses on HPT. The book's 44 chapters are divided into 6 parts:

1. **The Fundamentals of Human Performance Technology.** This section introduces the basics of HPT as a field of professional practice and study.
2. **The General Process of Human Performance Technology.** These chapters describe the major elements of the systems model underlying HPT.
3. **Human Performance Interventions of a Noninstructional Nature.** This section emphasizes approaches which achieve results without recourse to instruction.
4. **Human Performance Interventions of an Instructional Nature.** Trainers will find chapters on classroom instruction, small-group activities, video-based instruction, CBT, printed self-instruction, resource management systems, structured on-the-job training, distance education, and accelerated learning.
5. **The Professional Practice of Human Performance Technology.** This part deals with major issues facing HPT practitioners, such as standards, ethics, and legal implications.
6. **The Future of Human Performance Technology.** This represents an overview of emerging trends in performance and instructional interventions, as well as potential contributions from research and the cognitive sciences.

Appendices include "HPT-Related Professional Societies," with addresses, telephone numbers, statements of purpose, and publications listed; and an "HPT-Related Bibliography." The volume also includes comprehensive name and subject indexes. (AN67)

BASICS OF PERFORMANCE TECHNOLOGY

Source: "Training Basics: Basics of Performance Technology," by Beverly Bricker, *Info-Line*, November 1992, 15 pages

"Performance technology," explains the author, "is a systematic approach to analyzing, improving, and managing performance in the workplace through the use of appropriate and varied interventions." This article gives an overview of the discipline of performance technology (PT) and the steps HRD professionals can take in this direction. First, the author explains that PT is such a hot topic due to changing organizations and limited resources. Next, she outlines the PT process:

1. **Problem definition.** She explains how to calculate the potential for improving performance in terms of productivity, quality, and cost.
2. **Analysis.** She discusses analysis at the organizational, process, and individual performer levels. The article includes a table with examples of jobs, measures, and relevant job requirements.
3. **Development and design.** The author discusses possible deficiencies at each level and interventions which might correct them.
4. **Implementation and maintenance.**
5. **Evaluation.**

Finally, she explains how to become a performance technologist (1) by using participation and involvement, (2) by knowing one's organization, and (3) by making the most of power to bring about change. "Don't wait for your manager to approach you with a training project," she says. "Become proactive and seek out problems or opportunities before they get to you." She urges HRD staff members to develop professional expertise in the field of PT. "Once you're successful," she concludes, "market your results shamelessly." (AN68)

PERFORMANCE TECHNOLOGY AND THE LEARNING ORGANIZATION

Source: "Performance Technology: Blueprint for the Learning Organization?" by Jack Gordon, *TRAINING Magazine*, May 1992, pp. 27-36

While performance technology (PT) is a creature of the training world, says the author, born out of the frustration of corporate training specialists, the concept of the "learning organization" was born with a silver spoon in its mouth, conceived in discussions between high-level corporate executives and the Sloan School of Management, where Peter Senge (*The Fifth Discipline: The Art and Practice of the Learning Organization*) is a professor. However, the author contends, "if what we want is a learning organization, PT may very well be the how-to manual that enables us to build its foundations." The remainder of the article answers PT's critics who caricature PT as a dinosaur whose time is past. "The trouble with the case against PT," says the author, "is that when you call up a few of those premier practitioners and confront them with the dinosaur argument, they kick it to rags without breaking a sweat." The author allows PT "A-list practitioners" Joe Harless, Geary Rummler, and Bob Mager to answer various criticisms: (a) that PT focuses on the individual performer and is not relevant to team approaches, (b) that PT says little about creating learner-problem solvers, and (c) that the PT approach doesn't apply to knowledge workers. The author observes the importance of a systems approach to PT and its definition of goals in clear, operational terms. The only

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alternative to PT's scientific approach to assessing interventions, says Harless, is the extremely expensive approach of trying all the possible combinations of interventions and hope something works. The article concludes with a restatement of basic the approach of PT. (AN69)

PERFORMANCE MANAGEMENT AND TOTAL QUALITY

Source: "Successfully Integrating Total Quality and Performance Appraisal," by Kathleen A. Guinn, *The Human Resources Professional*, Spring 1992, pp. 19-25

"Companies need not sacrifice performance appraisal on the altar of total quality," states the author, but they should work on "building a stronger performance appraisal, one that is equally effective for individuals or work teams." She points to the longer-term process of performance management—the comprehensive process of planning, managing, and reviewing performance. "The process of performance management actually reinforces total quality management (TQM)," she says, "because it gives managers the skills and tools to carry out the 'management' part of TQM." Then she spells out a performance management process that reinforces TQM, which differs from traditional performance appraisal in 5 critical ways:

- **Customer expectations**, not a job description, generate the individual's performance expectations.
- **Results expectations** meet different criteria than management-by-objectives statements.
- Performance expectations include **behavioral skills** that make the real difference in achieving quality performance and total customer satisfaction.
- The rating scale reflects **actual performance**, not a "grading curve."
- **Employees are active participants** in the process, not merely "drawn in" by management's actions. (AN70)

PERFORMANCE DIMENSIONS

Source: "Performance Dimensions: Competencies with a Twist," by Thomas Rollins and Mike Fruge, *TRAINING Magazine*, January 1992, pp. 47-51

Performance dimensions are factors that lead to job success. Like "competencies," the authors explain, they include skills and knowledge. But performance dimensions also include attitudes, values, and character traits. Performance dimensions come in 3 levels:

1. **Behavior**—skills and knowledge,
2. **Self-concept**—attitudes, values, self-image, and occupational preference, and
3. **Personal characteristics**—traits and motives.

The authors stress the importance of distinguishing between *adequate* performance dimensions and those which enable *excellent* performance. The article concludes with an example of 10 performance dimensions identified by ARCO Transportation Co. (ATC): action, teamwork, creativity, communication, decision-making, leadership, proficiency, accountability, adaptability, and development. Teamwork, for instance, is defined as "a cooperative effort to achieve a common goal." And behavioral indicators of teamwork are factors such as: "helps other team members to achieve, while also being able to accept help from others" and "shares responsibility, recognition, and ownership of team goals and results." So far, ACT has rewritten the annual performance appraisal to send a message that these performance dimensions are being incorporated into the corporate value system. Now it is blending the performance dimensions into the hiring system, with other HR functions to follow. (AN71)

HOW TO BUILD A JOB AID

Source: "The Basics: Job Aids," by Angus Reynolds, *Technical & Skills Training*, August-September 1992, pp. 20-21

Job aids are useful in many situations, this author explains, but he adds that they are of no use whatsoever: (1) if there is no time to use one, (2) if the people served by the job aid user perceive its use as an indication of flawed or incomplete training, or (3) if the user will ignore the aid due to lack of motivation. In this article, the author describes 3 types of job aid format: desktop, pocket, and equipment-related, and he enumerates 4 features that may be used independently or in combination in the job aid: (1) decision tables, (2) algorithms, (3) cookbooks, and (4) worksheets. The author concludes with several tips for creating job aids:

- Write in short sentences and simple words.
- Use symbols to direct the user and call attention to important items wherever possible.
- In algorithms, put the most frequently needed actions first.
- Use cookbooks or worksheets for sequential tasks, use decision tables or algorithms for decision-making tasks, and combine job aids for combined job tasks.
- When making a decision table, lay out the whole system with a flowchart or algorithm, and then make the table reflect the system.
- Sequence decision table actions in the most likely order of use.
- Give the users a copy of an already-completed worksheet, and consider a cookbook to process directions if the worksheet is complex.
- Construct aids in small increments and write in precise terms. (AN72)

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G. LEARNING THEORY

TDY 93/94 RESEARCH SUMMARY: OVERLEARNING AND RETENTION

Source: "Effect of Overlearning on Retention," by James E. Driskell, *et al.*, *Journal of Applied Psychology*, Vol. 7, No. 5 (1992), pp. 615-622

While overlearning—the deliberate overtraining of a task past a set criterion—has been recognized as an effective way to enhance performance, but the particular type of overlearning and its length of effectiveness has not. The authors conducted a meta-analysis of the research literature to examine the extent to which the effect of overlearning on retention increases or decreases as a function of some theoretically relevant and practically important moderators. They concluded that overlearning is an effective training procedure for both physical and cognitive tasks, though the effect of overlearning is stronger for cognitive tasks. The greater the degree of overlearning, the greater the resulting retention. For cognitive tasks, the longer the delay between the overlearning manipulation and performance, the weaker the overlearning effect. The benefit in performance gained from overlearning was reduced by one-half after 19 days. Thus, maintaining optimal performance requires that additional training take place after approximately 3 weeks. Without further refresher training, the increase in retention due to overlearning is likely to dissipate to zero after 5 to 6 weeks. This decay is less likely for physical tasks, and thus there may be considerable practical value in ensuring active, physical practice of skills during training. (AN74)

TDY 93/94 IN BRIEF

LEARNING STYLES

Source: "New Directions in Training Individuals," by Peggy Stuart, *Personnel Journal*, September 1992, pp. 86-94

"As an appreciation of diversity has led to an appreciation of the individual—the new diversity—companies now want to use this uniqueness to enhance the effectiveness of training. New learning-style theories are helping them do it," says the author. Two diversity factors that most influence training are personality and learning style, and new training methods are addressing these differences in learners. The first step to providing the appropriate training is to assess learning preferences through a learning-style inventory. The inventory can help determine the best approaches for groups of trainees, as well as for individuals. The author recommends celebrating the diversity of trainees, instead of being intimidated by it. No trainer can meet the individual needs of each trainee at the same time, she observes, but the trainer can use a variety of activities to help everyone learn better. Furthermore, activities can be designed to stimulate both sides of the brain and to cover a wide range of learning styles. The author points out, however, that all trainees need (1) foundational information, (2) practice, and (3) on-the-job application of what they have learned. If employees come to understand their own learning styles, then organizations can provide more effective self-training opportunities, as well. (AN75)

A THEORY BASE FOR MANAGEMENT DEVELOPMENT

Source: "The Missing Element in Training the Trainers: Integrating Theory with Practice," by Roy Canning, *Journal of European Industrial Training*, Vol. 16, No. 2 (1992), pp. 3-6

Management developers can improve their training effectiveness, this author says, by narrowing the gap between their practical skills and their theoretical knowledge by strengthening their theory base. He defines theory as "a set of hypotheses related by logic or reason to explain and predict a wide variety of unconnected phenomena," and he breaks the subject of theory into 4 levels: (1) understanding theory, (2) theory in use, (3) theory in context, and (4) generalized theory. Management development specialists, he says, first must determine which levels are integral to their tasks. Once the level has been determined, the types of theory needed can be further narrowed down through the analysis of several general criteria: (1) generality, (2) relevance, (3) consistency, (4) completeness, (5) testability, (6) centrality, and (7) usability. When the level and quality of theory desired has been pinpointed, the author concludes, the trainer can then proceed to build his or her theory base through reading, mentoring, networking, research, and dialogues with other trainers. (AN76)

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H. THE LEARNING ORGANIZATION

BUILDING LEARNING ORGANIZATIONS

by Peter Senge

Why do many leaders of the so-called "quality movement" hate the term "the quality movement?" The man most often identified as the father of total quality management, Dr. W. Edwards Deming, takes offense at the assumed parentage. "The term is counterproductive," says Dr. Deming, the man who first taught the Japanese statistical quality control. "My work is about a transformation in management and about the profound knowledge needed for the transformation. Total quality stops people from thinking."

"Neither 'total quality' nor 'total quality management' describes what this approach to management is all about," says Dr. Edward Baker, director of Ford's corporate quality office. "It's about improving the total behavior of organizations, about developing the capability of a system to do what its members actually want it to do—anywhere in life."

Without a unifying conceptual framework, the quality movement in the US risks being fragmented into isolated initiatives and slogans. *The voice of the customer, fix the process not the people, competitive benchmarking, continuous improvement, policy deployment, leadership*—the more we hear, the less we understand.

"Trying to put together the alphabet soup coming out of Japan of SPC, JIT, QIP, QFD, and so on can be hopelessly confusing without a unifying theme," says Analog Devices CEO Ray Stata.

It is not surprising that, for many, it doesn't add up to much more than management's latest *flavor of the month* that must be endured until the next fad comes along.

Even those firms where there has been significant commitment to quality management for several years are encountering slowing rates of improvement. "We've picked all the low hanging fruit," as one Detroit executive put it recently. "Now, the difficult changes are what's left."

The "difficult changes" are unlikely without a coherent picture of where we are trying to take our organizations through the quality management process.

Our global competitors. Equally troubling, the best of our international competitors are not fragmenting, they are building—steadily advancing an approach to improving quality, productivity, and profitability that differs fundamentally from the traditional authoritarian, mechanical management model.

"Total quality [TQ] is not a closed-ended methodology; it's an open-ended methodology," says Shoji Shiba, of Japan's Tsukuba University. "TQ continues to develop according to the needs of society."

The tools American corporations are racing to master today, the frontier of the quality movement in Japan in the 1960s, are no longer the frontier. The "thought revolution in management," as quality pioneer Ishikawa called it, is still evolving.

Learning organizations. I believe that the quality movement as we have known it up to now in the US is in fact the first wave in building **learning organizations**—organizations that continually expand their ability to shape their future.

The roots of the quality movement lie in assumptions about people, organizations, and management that have one unifying theme: to make continual learning a way of organizational life, especially improving the performance of the organization as a total system. This can only be achieved by breaking with the traditional authoritarian, command and control hierarchy where the top thinks and the local acts, to merge thinking and acting at all levels.

This represents a profound re-orientation in the concerns of management—a shift from a predominant concern with controlling to a predominant concern with learning. Failure to come to grips with this shift plagues the efforts of many US firms eager to jump on the quality bandwagon.

Learning organizations in Japan... Our Japanese competitors have no trouble with this shift. "Japan's greatest long-term comparative advantage is not its management system, Japan Inc., or quality," says C. Jackson Grayson, Jr., of the American Productivity and Quality Center in Houston. "It's the Japanese commitment to learning."

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More specifically, as management practices in Japan have evolved over the past 40 years, there has been a steady spread of the commitment to learning—starting with statistical process control (SPC) for small groups of quality experts, to teaching quality improvement tools to frontline workers throughout the organization, to developing and disseminating tools for managerial learning.

Learning waves. The evolution of learning organizations can be best understood as a series of waves. What most managers think of as quality management focuses on improving tangible work processes. This is the first wave.

The first wave of quality...In the first wave, the primary focus of change was frontline workers. Management's job was to:

- Champion continual improvement
- Remove impediments (like quality control experts and unnecessary bureaucracy) that disempowered local personnel
- Support new practices like quality training and competitive benchmarking that drive process improvement.

The second wave of quality... In the second wave, the focus shifts from improving work processes to improving how we work—fostering ways of thinking and interacting conducive to continual learning about the dynamic, complex, conflictual issues that determine system wide performance. In the second wave, the primary focus of change is the managers themselves.

The third wave of quality...These two ways will, I believe, gradually merge into a third, in which learning becomes institutionalized as an inescapable way of life for managers and workers alike (if we even bother maintaining that distinction).

We are still in the first wave...American industry is, with a few exceptions, primarily operating in the first wave. "Despite all our improvements, the basic behavior of our managers, especially our senior managers, hasn't really changed much," laments the head of a major corporation's quality office.

Japan and the second wave...By contrast, the second wave is well under way in Japan, driven by their seven new tools for management, as distinct from their traditional seven quality tools that drove the first wave.

America's challenge...The challenge today, as American companies endeavor to master the basic tools and philosophy of quality management, is not to be be caught short-sighted with mechanical quality programs.

If we fail to grasp the deeper messages of the quality movement, we will one day awaken to discover ourselves chasing a receding target.

The Roots of the Quality Movement

A close look at the roots of the quality movement shows that it has always been about learning.

"The prevailing system of management has destroyed our people," says Dr. Deming. "People are born with intrinsic motivation, self-esteem, dignity, curiosity to learn, joy in learning."

Intrinsic versus extrinsic motivation...Intrinsic motivation lies at the heart of Deming's management philosophy. By contrast, extrinsic motivation is the bread and butter of Western management.

The holiest of holy for the American manager, "People do what they are rewarded for," is actually antithetical to the spirit of quality management. This doesn't imply that rewards are irrelevant. Rather, it implies that no set of rewards, neither carrots nor sticks, can ever substitute for intrinsic motivation to learn. A corporate commitment to quality that is not based on intrinsic motivation is a house built on sand.

Motivate *them* or loose *their* own motivation? Consider, for example the goal of continuous improvement, which remains an elusive target for most American corporations.

Motivate them...From an extrinsic perspective, the only way to get continuous improvement is to find ways to continually motivate people to improve, because people only modify their behavior when there is some external motivation to do so. Otherwise, they will just sit there—or worse, slide backwards. This leads to what workers perceive as management continually raising the bar to manipulate more effort from them.

Loose their motivation with information and appropriate tools...However, from an intrinsic perspective, there is nothing mysterious at all about continuous improvement. If left to their own devices, people will naturally look for ways to do things better. What they need is adequate information and appropriate tools.

From the intrinsic perspective people's innate curiosity and desire to experiment, if unleashed, creates an engine for improvement that can never be matched by external rewards.

Learning and intrinsic motivation to learn have always been the roots of quality. A management system based on intrinsic motivation to learn is as befuddling to Western economists as it is to Western managers.

Princeton economist Alan Blinder recently cited an impressive list of Japanese "violations" of economic orthodoxy—tolerated monopolies and cartels, single suppliers, salary scales that do not differentiate adequately between ranks, keeping promising young managers waiting too long for promotion, and "almost nothing gets you fired."

"We did the opposite of what American economists said," Blinder quotes a top Ministry of International Trade & Industry (MITI) official. "We violated all the normal rules." But the puzzle of how a nation that does so many things wrong can get so many things right dissolves when we realize that Western economic theories, from Adam Smith on, are based solely on extrinsic motivation.

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The way we thought it was...Adam Smith's *homo economicus* is presumed to maximize his income, not his learning. The following are some maxims of *US homo economicus*:

- If there is no opportunity for significant salary increase by climbing the corporate ladder, he will have little motivation to do his best or to improve.
- If there is no fear of dismissal, there will be nothing to drive him to be productive.
- If his company, made up of lots of greedy little buggers just like him, does not have to compete against other companies, they will have no motivation to continually lower costs of production, nor to improve their products.

In short, no competition, no innovation. But, if the drive to innovate comes from within, all this changes—especially if a management system can nurture and harness this drive.

Shewhart's and Dewey's roots to quality. But we don't have to look just to subtleties like intrinsic motivation to see that the quality movement has always been about learning.

PDCA...The famous PDCA cycle is evidence enough. No one ever gets far into any introduction to total quality management without learning about Plan-Do-Check-Act, the never-ending cycle of experimentation that structures all quality improvement efforts.

Deming called it the *Shewhart cycle* when he introduced it to the Japanese in 1950, in honor of his mentor Walter Shewhart of Bell Labs. Eventually the Japanese called it the *Deming cycle*.

Of John Dewey, learning and quality...But the roots of the PDCA cycle go back further than Deming or Shewhart, at least as far as the educator, John Dewey.

Dewey posited that all learning involves a cycle between four basic stages:

- Discover: the discovery of new insights, Invent, creating new options for action.
- Produce: producing new actions.
- Observe: seeing the consequences of those actions, which leads to new discoveries, continuing the cycle.

This is how we learned to walk, to talk, to ride a bicycle, to act skillfully wherever we have achieved some proficiency. The young child first must discover that they want to walk, invent ways of getting started, act, and observe the consequences of her or his action.

Interrupting the cycle interrupts the learning. If the toddler is supported so they do not fall, they also do not learn.

Learning is moving from thought to action... In effect, Dewey canonized the simple fact that all real learning occurs over time, as we move between the world of thought and the world of action. Learning is never simply an intellectual exercise. Nor is it a matter of changing behavior. It is an interactive process linking the two, in a spiral of continually expanding our capabilities.

It is not altogether irrelevant to note that this is a far cry from the common image of *learning* inculcated in the schoolroom, where most of us conclude that learning is synonymous with *taking in information* and being able to produce the *right answer* on cue—little wonder that for most adults, the word *learning* does not quicken the pulse.

The PDCA cycle takes Dewey's theory of learning one step further, saying, in effect, that in an organization it is often wise to distinguish *small actions* from widespread adoption of new practices.

The *do* stage then becomes pilot tests from which new data can be collected and analyzed (*checked*). Gradually, a series of such pilots results in more general learnings and the act stage moves to broader and broader application of new practices.

PDCA American style...While simple in concept, the PDCA cycle is often practiced quite differently in the US and in Japan.

Impatient for quick results, American managers often jump from *plan* to act.

The rush to act undermines efforts...We conceive new programs and then begin rolling them out throughout the organization. In fact, that's exactly what many US firms are doing with their total quality programs.

While rolling out new programs makes us feel good about doing something (acting) to improve things in our business, in fact we are actually undermining possibilities for learning. Who can learn from an experiment involving thousands of people that is only run one time?

PDCA Japanese style...By contrast the Japanese are masters of organizational experimentation. They meticulously design and study pilot tests, often with many corporations participating cooperatively.

Through repeated cycles, new knowledge gradually accumulates. By the time for organization-wide changes, people adopt new practices more rapidly because so many more have been involved in the learning.

For Americans, this whole process often seems unnecessarily time consuming and costly. As one manager pointed out to me recently, the statement "I'm running an experiment" in most American companies is a code word for "Don't hold me accountable for the results." Consequently, while we may go through the motions of quality improvement, we often get the facade without the substance. At best, we get limited bursts of learning.

Improving How We Work

The first wave. Improving tangible work processes (from the production line, to order entry, to responding to customer inquiries or coordinating the typing queue) was the predominant theme of the first wave in building learning organizations.

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The initial tools were derived primarily from statistics, including SPC, and related methods for diagramming, analyzing, and redesigning work processes to reduce variability and enable systematic improvement.

As the first wave has unfolded, the focus has broadened to include more complex processes like product development. By and large, the customer was outside the system of production and the system was designed to meet customer needs.

First wave strength...The strength of the first wave lay in achieving measurable improvements in cost, quality, and customer satisfaction through rigorous and reproducible processes of improvement.

First wave limitation...The limitation lay in the relatively passive role of management and the limited impact on the larger systems whereby processes interact—for example, how sales, order entry, manufacturing and customer satisfaction interact.

The second wave unfolds. The initial profile of the second wave could be seen in Japan as early as the 1960s when leading firms began to undertake mass deployment of quality tools. Previously, only small groups of quality control experts learned how to analyze work processes, reduce variation, and improve quality and cost.

Japanese quality circles and learning... "Beginning with quality circles," says Massachusetts Institute of Technology's Alan Graham, "that changed. Everyone began to participate in quality improvement." This was the time when *kaizan* (organization-wide commitment to continuous improvement) was born. This also was the time when Japanese organizations began extensive training in team learning skills, to develop the norms and capabilities needed if quality circles were to be effective.

US quality circles and a lack of emphasis on learning...Interestingly, when US firms began to organize production workers in quality circles, 10 to 15 years later, the emphasis was on forming teams, not on developing team learning skills. Consequently, "The skills and practices, both among workers and managers, necessary for QC circles to be effective," according to Graham, "were not present in the introduction of QC circles in the US. This has been typical of the general underemphasis here on skills and practices, as opposed to official programs and management goals."

The result was that many initial efforts at quality control circles in the US failed to generate lasting commitment or significant improvement. "Mid-level managers," says USC's Ed Lawler, "saw QC circles as a threat to their authority, and workers saw them as a gimmick to elicit increased effort and undermine union influence."

The second wave arrives. In Japan, the second wave arrived in full force with the introduction of the *seven new tools* for management in 1979.

The seven new tools...These tools, the work of a committee of the Society for QC Technique Development that operated from 1972 to 1979, focus specifically on how managers think and interact. They particularly emphasize developing better communication and common understandings of complex issues, and relatin understanding to operational planning.

"There are a lot of methodologies for measu analyzing, and testing quantitative data," says the l of the the group that developed the new tools, Prof Shiba, "but the area of qualitative methodologies, h create hypotheses, is very weak. Professor Jiro Kawa a Japanese anthropologist, developed methods for lyzing non-numerical data and making sense of data."

For example, the *KJ method* or affinity diagram taught by Professor Shiba and other experts on the *s management tools*, help teams gather large amount non-quantitative data and organize it into group based on natural relationships or affinities. Other t help to clarify interrelationships, establish priorities, think through and plan the complex tasks required accomplishing an agreed upon goal.

A new perspective of the customer... Along with th new tools for thinking and interacting, a new orienta toward the customer has gradually emerged. The n perspective moved from satisfying the customer's pressed requirements to meeting the latent needs of customer.

The Miata as a second wave example...As one Det executive put it, "You could never produce the Maz Miata from market research. You have to understa what the customer would value if he experienced it." the second wave, the customer becomes part of t system. There is an interplay between what the firm see to produce and what the customer desires.

The second wave in America...Today, a small numb of American companies are starting to experiment wi the seven new management tools.

They are discovering a whole new territory for i creasing organizational capabilities—how we think an interact around complex, potentially conflictual issue This is the real message of the second wave—leverag ultimately lies in improving us, not just improving ou work processes.

Engelbart's *A, B and C work.* "There are three level of work in organizations," says computer pioneer an inventor of the *mouse*,

Douglas Engelbart, who has spent the better part of 2 years studying the nature of collaborative work.

"The most obvious level, *A work*, involves the devel opment, production, and sale of a firm's products and services. Most of a company's people and resources are focused at this level.

Effective *A work* would be impossible, however, without the next level, *B work*, which involves designing the systems and processes that enable a company to develop, produce, and sell its products and services.

But, the subtlest and potentially most influential level is *C work*, improving how we think and interact. Ultimately, the quality of *C work* determines the quality of systems and processes we design and the products and services we provide."

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The first wave and B work...The major contribution of quality management in the first wave was to focus time and energy systematically on Engelbart's *B work*, especially on improving processes, and to provide tools for the task.

The second wave and C work...The major contribution of the second wave will be to systematically focus on Engelbart's *C work*. This, too, will require appropriate tools. But, before such tools can be developed, we must first understand the *core competencies of learning organizations*, those distinctive capabilities in thinking and interacting which will enable us to "continually improve the total behavior of organizations."

Core competencies for learning organizations. The seven new tools point in the right direction. But, our work suggests that they are only a start to developing an organization's capabilities in:

- *Building shared vision*—There is no substitute for organizational resolve, conviction, commitment, and clarity of intent. They create the need for learning and the collective will to learn. Without shared visions, significant learning occurs only when there are crises, and the learning ends when the crises end.
- *Personal mastery*—Shared vision comes from personal visions. Collective commitment to learning comes from individual commitment to learning. An organization that is continually learning how to create its future must be made up of individuals who are continually learning how to create more of what truly matters to them in their own lives.
- *Working with mental models*—Organizations become frozen in inaccurate and disempowering views of reality because we lack the capability to *see our assumptions* and to continually challenge and improve those assumptions. This requires fostering managerial skills in *balancing inquiry and advocacy* in organizations that have been traditionally dominated by advocacy.
- *Team learning*—Ultimately, the learning that matters is the learning of *groups of people who need one another to act* (the real meaning of team). The only problem is that we've lost the ability to talk with one another . Most of the time we are limited to *discussion*, which comes from the same roots as percussion and concussion and literally means to *heave one's views at the other*. What is needed also is dialogue, which comes from the Greek *dia logos* and literally means when a group of people talk with one another such that the meaning (*logos*) moves through (*dia*) them.
- *Systems thinking*—It's not just how we learn, but what we learn. The most important learning in contemporary organizations concerns gaining shared insight into complexity and how we can shape change. But, since early in life, we've been taught to break apart problems.

The resulting fragmentation has left us unable to see the consequences of our own actions, creating an illusion that we are victims of forces outside our control and that the only type of learning that is possible is learning to react more quickly. Systems thinking is about understanding wholes, not parts, and learning how our actions shape our reality.

Creating an organizational symphony. The intrinsic limitations to each of these capabilities is only overcome if they are developed in concert:

- Empowering people (an organization-wide commitment to personal mastery) empowers the organization, but only if individuals are deeply aligned around a common sense of purpose and shared vision.
- Shared vision will energize and sustain an organization through thick and thin, but only if people think systemically: once people are able to see how their actions shape their reality, they begin to understand how alternative actions could create a different reality.
- Individual skills in reflection and inquiry mean little if they cannot be practiced when groups of people confront controversial issues.
- Systems thinking will become the province of a small set of *systems experts* unless it is tied to an organization-wide commitment to improving mental models, and even then nothing much will change without shared visions.
- A commitment to seeing the larger system only matters when there is a commitment to the long-term. In the short run, everyone can just fix their piece. Only with a long term view can an organization see that optimizing the parts, one at a time, can lead to sub-optimizing the whole.

A Short Study on Learning as a Way of Organizational Life

In 1970, Royal/Dutch Shell was arguably the weakest of the *big seven* oil companies. Today, it is one of the strongest. A key to Shell's ascent has been reconceiving planning as learning, a conscious process of bringing operating managers' mental models to the surface and challenging those models.

Shell's scenario planning. This conceptual shift has been operationalized by tools like scenario planning. Through its use of scenarios, Shell's planners help managers continually think through how they would manage under multiple possible futures. Today, it is hard for a Shell manager to do business planning without engaging in a conscious learning process.

Shell has become perhaps the first global corporation to realize the leverage of institutionalizing learning as the

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most effective approach to strategy in a turbulent world. "The corporate one-track mind," says former planning chief Arie de Geus, "is the single primary reason why so many once successful corporations fail to survive beyond their infancy."

From a foreboding view to a new form of planning... Shell's innovations in institutional learning were driven by necessity. As early as 1971, Shell's planners became convinced that major shocks in supply and price were becoming a possibility in world oil markets. But, they were unable to convince managers conditioned by the stability of world markets in the 50s and 60s.

This led the planners to develop scenario planning *exercises*, wherein managers thought through how they would manage if there were a shift from a buyer's market to a seller's market where sudden changes in price would be a part of life, regardless of whether or not they expected such a change.

Prepared for change in the 70s... When OPEC did become a reality and the first oil shocks hit in the winter of 1973 and 1974, Shell responded differently than any other big oil company. It increased local operating company control rather than increasing corporate control. It accelerated development of reserves, especially in its North Sea fields. While the other major oil companies saw a sudden, unexpected crisis and acted accordingly, Shell's managers perceived a sea change in the basic nature of the business, and acted differently.

Shell's scenario planning and the 80s... The discipline of thinking in terms of alternative futures served well in the 80s. Shell planners created a *$15 a barrel oil scenario* in 1983, at a time when prices averaged around $30. They considered two alternative futures:

- *Alternative future one*: As managers considered how they would manage in a depressed price world, they quickly concluded that many of their present production processes would have to be shut down because they we're too costly.
- *Alternative future two*: A few engineers suggested that radical redesign of their oil platforms using new miniature technologies could make them operable at prices as low as $11 per barrel.

As they considered the plan, it soon became obvious that such a redesign was in fact more desirable under any possible scenario!

Their production people went ahead with the new design concepts. And when prices did fall, hitting an unbelievable $8 per barrel in 1984, Shell was, once again, one step ahead of its competitors.

Organizational learning alternatives. Institutionalizing learning as part of the planning process is one of many possible approaches. It's clear that many Japanese companies have institutionalized learning around quality improvement teams and related innovations.

There is no shortage of ways by which learning may become an inescapable aspect of organizational life, once the commitment to learning is understood, and once appropriate tools are available.

Institutionalized experimentation... "Institutionalizing experimentation can make an enormous difference," says Harvard's Dave Garvin. "For example, Allegheny Ludlum, one of the most profitable American steel companies, treats its entire production process as a laboratory for experimenting with new processes and technologies. Production managers can designate experiments they want to conduct and an entirely different set of measures and standards are used to evaluate their efforts."

Managerial microworlds... Another means to institutionalizing learning, the focus of our research at MIT, involves developing managerial microworlds, practice fields for management teams.

A financial services microworld: For example, in a microworld designed for a leading property and liability insurance company, managers discovered how many of their most trusted practices, when they interact in the larger systems of which they are a part, actually contribute to runaway settlement and litigation costs.

Using a computerized *management flight simulator*, they are then able to freely experiment, in ways that would be difficult in real insurance offices, with a wide range of alternative personnel, workflow and quality management practices to find where there may be leverage in reversing the growing insurance crisis.

Eventually, we envision such microworlds being as common place in organizations as meeting rooms. There will be places where we gather to think through complex issues and learn through experimentation when trial and error learning is impossible in the real system.

Activity based cost accounting... Another potential breakthrough lies in changing managerial accounting practices to reinforce learning rather than controlling.

"Managers and manufacturing engineers," says Harvard's Robert Kaplan "frequently comment that considerable operating improvements they achieve go unrecognized in their financial results."

If the emphasis is on continuous, system-wide improvement, how can we have accounting practices based on historically determined standards? "Traditional cost accounting measures fail when they focus on small, local (but not system-wide) measures of efficiency and productivity."

Why Becoming a Learning Organization Matters

Seeing quality management as part of a deeper and even more far reaching shift leads to several realizations into why the unfolding changes in American management practices may not produce an enduring transformation.

First wave quality is still not well understood in the US. Despite enormous attention, public commitment by prominent corporations, and even a national award, there is a distinct possibility that American management still does not understand what the quality movement is really all about.

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Specifically, we lack understanding of what is required for even first wave quality management practices to take root, and why they often fail to take root in American firms.

Confusion over the connections between learning, teams, standards, motivations and innovation...The total quality management task force at one of America's most successful high-tech manufacturing firms recently came unglued around a question of standards.

The external consultant brought in to help develop and implement the TQM strategy argued that standards and standardization were vital to gain better control of the organization's production processes, so that they could be improved. But, to some of the firm's managers, standardization meant rigidity, and a loss of freedom and respect for workers' creativity and individuality.

"Everything becomes vanilla," argued one manager. "We will kill the spark of individual creativity that has made this company what it is."

"If you're not operating in a learning orientation," observed MIT's Dan Kim, "you hear *standardization* differently than if you are. People internalize the need to improve as, *I must be deficient*. Naturally, they then resist what they perceive as an effort to make their deficiencies public and *fix them*."

Confusion over the meaning of continuous *and* control...The same happens with continuous improvement. Within a learning culture, continuous improvement is a natural by-product of people's commitment and empowerment. Within a controlling culture it is an admission of deficiency. "Why must I improve, unless I'm not good enough now?"

From such a viewpoint, continuous improvement is about becoming less deficient. It is not about learning. This is why it is so deeply resisted by workers in many US companies.

In response to this resistance, managers with good intentions resort to exhortation and to driving *highly mechanized* quality programs through their organizations. This creates a vicious cycle of increasing exhortation and increasing resistance. What is needed is understanding and changing the source of the resistance, which stems from bringing tools for learning into a managerial system based on controlling.

We still believe controlling people is more important than creating a learning environment. The second realization is that there is nothing in the American bag of quality tools today that will cause the shift to a learning orientation. And causing such a shift is exactly what is needed in most American corporations. Without a shift of mind from controlling to learning, or as Kim puts it, from "protect and defend" to "create and learn," we "get the tools for quality management without the substance."

Learning cannot be switched on...Creating such a shift is an organic process, not a mechanical one. It demands penetrating to deep levels of the corporate psyche and unearthing and examining deep fears.

What will it take to change? To put it bluntly, the shift will not occur if it is not within us. It cannot be faked. It cannot be achieved by public declarations. If at some basic level, we do not genuinely value and truly desire to live life as learners, it will not happen.

My experience is that it can only be caused by small groups of thoughtful leaders who truly desire to build an organization where people are committed to a larger purpose and to thinking for themselves.

Such thoughtful groups then must be willing to become models of continually learning, with all the vulnerability and uncertainty that implies. They become lead users of new learning tools and approaches.

Public and organizational learning/education are linked. The last, and potentially most important, realization is that the transformation in corporate and public education may be linked.

"Humans are the learning organism *par excellence*" according to anthropologist Edward T. Hall. "The drive to learn is as strong as the sexual drive—it begins earlier and lasts longer."

If the drive to learn is so strong, why is it so weak in our corporations? What happened to our "intrinsic joy in learning," as Dr. Deming puts it. The answer according to Deming, Hall, and many educators lies, surprisingly, as much in the classroom as on the factory floor. "The forces of destruction begin with toddlers," says Deming, "...a prize for the best Halloween costume, grades in school, gold stars—and on up through the university."

Performing versus learning...The young child in school quickly learns that the name of the game is not learning it is *performing*. Mistakes are punished, correct answers rewarded. If you don't have the right answer, keep your mouth shut.

If we had operated under that system as two-year olds, none of us would have ever learned to walk. Is it any wonder the manager or worker shows little intrinsic motivation of *learn*—that is, to experiment and discover new insights from mistakes, outcomes that don't turn out according to plan.

If the conditioning toward performing for others rather than learning is so deeply established in schools, it may not be possible to reverse it on the job. If knowledge is always something somebody else has and I don't, then learning becomes embedded in deep instincts of self-protection not free experimentation.

If the identification of *boss* with *teacher*, the authority figure who has the answers and is the arbiter of our performance is so firmly anchored, we may never be able to roll up our sleeves and all become learners together.

Today, there is no lack of corporate concern for the erosion in our public education. But, there is a lack of vision as to what is truly needed. It is not enough to go back to the 3 R's. We must revolutionize the school experience so that it nurtures and deepens our love of learning, develops new skills of integrative or systemic thinking, and helps us learn how to learn, especially together.

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Final Thoughts

I recently asked Dr. Deming if he thought it was possible to fully implement his philosophy of management without radical reform in our schools, as well as in our corporations. "No" was his answer.

However, if we come to a deeper understanding of the linkage between school and work in the 21st century, we may be able to generate a wholly new vision and commitment to the vital task of rethinking both. This may be the real promise of the learning organization.

CONTINUOUS LEARNING IN THE WORKPLACE

by Victoria J. Marsick and Karen E. Watkins

When Donald Schön wrote *The Reflective Practitioner* (1983), he did for the world of work what Betty Friedan did for women in the early days of consciousness raising: He named a phenomenon that many practitioners felt, but had not been able to put into words. Schon pointed out that people influence their everyday practice by having reflective conversations about a situation. People frame their understanding of a situation in light of experience, try out actions, and then reinterpret or reframe the situation in light of the consequences of action.

What does reflective practice look like in the workplace? Why are people and organizations interested in this idea? Are there ways to actively facilitate it? What challenges can we expect if we try to create more opportunities for reflective practice and enhance the skills of people who wish to do this? We answer these questions in this article.

What Is Making Reflective Practice Possible in the Workplace?

The idea of reflective practice may seem at odds with workplace training because it puts the onus on a person to direct his or her own learning, whereas training has become an expert-directed activity. However, the idea of reflective practice is quite compatible with a new focus on continuous learning for continuous improvement in which employees at all levels of an organization are empowered to identify and solve problems. There are many reasons why this picture of training has been changing. Chief among them is a change in the nature of work itself. William Wiggenhorn of Motorola illustrates this point in a 1990 *Harvard Business Review* award-winning article: "Ten years ago, we hired people to perform set tasks and didn't ask them to do a lot of thinking" (p. 71). Motorola has now turned its production system around in the interests of total quality, a decentralized, team-oriented approach to work. Total quality cannot succeed without empowering workers to take more responsibility for daily decision-making related to their immediate tasks.

At the same time, workforce values have changed as the workforce has attained a higher level of education. Employees who have been educated to think want to use their judgment on the job. Today's workforce increasingly wants a share in decision-making and meaningful work.

What Does Reflective Practice Look Like?

There is evidence, then, that many organizations *should* be fostering reflective practice. Can we find any actual examples of reflective practice? Reflective practice is at the core of what is called "continuous learning for continuous improvement." Let us look at some examples.

Johnsonville Foods. Linda Honald in the April 1991 issue of TRAINING describes three situations at Johnsonville Foods that illustrate continuous learning:

- Two non-engineers reconfigure a sausage wrapping machine so that it will wrap two-and-a-half-inch and five-inch trays.
- A high-school educated woman stays overtime to rewrite product performance specifications for her work team.
- And a team of eight leaders, production, and clerical staff design a new compensation system even though they have no expertise in this area.

These employees are learning together through reflection and experimentation as they work. The result has been considerable organizational learning and savings.

Johnsonville Foods has made a commitment to learning and has supported this belief in learning by—

- Renaming the training department as member-development department;
- Creating a personal development fund of $100 for each employee to spend in any way he or she wishes on learning;
- Creating a resource center to make books, audiotapes, videotapes, and magazines available to members;

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- Designing a two-part, six-hour personal development workshop;
- Structuring learning opportunities into work, as for example, by allowing members to spend a day with people in other jobs to better understand the system as a whole.

Manulife Financial. Jeannette Lalond-Bard describes the way in which Manulife Financial, a Canada-based insurance company, encourages reflective practice. Manulife has created a Continuous Learning Center, which provides tools, processes, and programs to support management and all employees in their continuous learning journey. These include the following:

- Access to formal training programs;
- Continuing education financial support;
- On-the-job development options such as new roles, expanded responsibilities, and special projects;
- Self-study programs;
- Internal and external networks, mentors or coaches;
- Assessment and feedback tools to help employees gain insight into their own practice and then plan strategies for improvement that capitalize on informal, job-related opportunities.

Change has started with the highest level executives, in recognition that change cannot be sustained unless it is modeled and supported at these levels. The concept of continuous learning has been well-received by employees, but the myth that development comes only from formal training programs has been well-entrenched. Employees find it difficult, without constant reinforcement, to think about their jobs as a source for their development and learning.

Exxon Research and Engineering. A training committee spent over a year crafting this new learning approach to training and development; an approach that significantly broadened the organization's traditional focus on training. They wanted to create a new learning environment and encourage job-integrated, informal learning. This was a cultural change effort that needed to be institutionalized and rewarded over a long, steady period of time. Their first step was to develop some "tools" that would help engage the organization in thinking and caring about learning. The tools include a "box" for learning materials, covered with a colorful, provocative learning roadmap; a thirty-four page guidebook that explains the core approach and walks employees through the process; and employee development planning forms for identifying goals, priority skills, and knowledge to be acquired and effective learning options. The assumption is that people can become more reflective on their own, given this guidance, the facilitation by supervisors, and the explicit go-ahead from the organization.

Continuous Learning: A Vehicle for Reflective Practice

In one way or another, the above examples illustrate what companies call continuous learning, which is perhaps the most common vehicle for reflective practice in today's workplace. One division of a large communications organization has defined continuous learning as the ongoing formal and informal acquisition, both on and off the job, of individual, team, and organizational skills, knowledge, and abilities. It includes a mindset that views every experience as potential learning; a value that encourages individual and team learning and involvement; an attitude that encourages the routine re-examination of individual, team, and organizational assumptions, values, methods, and policies. There is a big difference between having experiences and learning from them. We believe that reflective practice is key to this distinction and depict a process of continuous learning that incorporates reflective practice in Figure 1. There is more room for error in continuous learning because people leave much of what they are thinking unconscious, implicit, and unshared. We identify ways to more effectively continue learning as follows:

1. CLARIFY the thinking and reasoning we bring to the situation and make it explicit;
2. OPEN yourself to questions about what and how you are learning;
3. NOTICE feelings, facts, and intuition about the context;
4. TEST hunches before acting;
5. INVESTIGATE many points of view;
6. NAME the problem, and then continue to rename it;
7. UNCOVER values, beliefs, assumptions, and norms that guide thinking and actions;
8. EXPERIMENT, and in so doing, seek reality-based feedback.

What Are Some of the Challenges in Implementing Reflective Practice?

Reflective practice is not easy to implement in the workplace. Challenges faced can be looked at in terms of the individual learner, the adult educator who designs and manages learning, and the organization itself. First, individuals may lack the skills for continuous learning. Some organizations help employees develop skills to plan and enhance informal learning. Peter Honey and Alan Mumford (*Capitalizing on Your Learning Style*. 1989) have developed materials for this purpose, based on learning style preferences that are a good place to start. However, many individuals are not yet accustomed to informal learning, and may not respect it because it is not credentialed. Reflective practice is easier when people get help from peers who can provide feedback that helps

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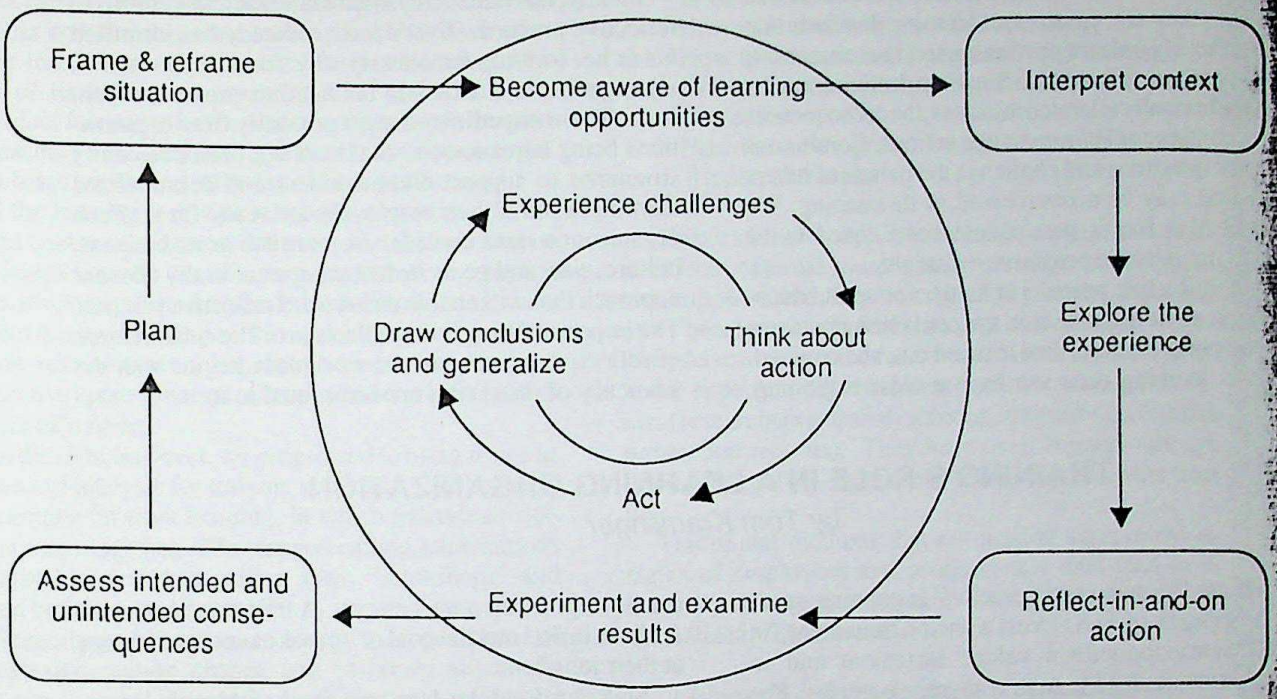
Figure 1: Continuous Work/Learning Model



The inner circle represents what people do when they work:

- Inner top: People have experiences that pose a challenge.
- Inner right: They then think about what to do.
- Inner bottom: They take action to respond to the challenge.
- Inner left: Finally, they assess their actions and draw conclusions.

Tied to each phase of work is a conscious learning step in the outer circle:

- Outer top: People convert challenges to learning opportunities.
- Outer right: They learn as they examine and explore the experience.
- Outer bottom: They learn as they experiment and examine results.
- Outer left: Finally, they plan for future learning based on assessment.

In the boxes located between each of the steps around the circle, we see a set of less conscious, but critical, steps in reflective practice:

- Upper left: As people encounter a situation, they frame or reframe it, that is they assess what they see, filter it though mental models from past experiences, and use their judgment to name what they see.
- Upper right: They then assess the context itself. For example, the people involved, expected ways of acting, anticipated resources, or anticipated impact. This helps them decide how they want to act.
- Lower right: Once an action is selected, they reflect in-and-on the action before, during, and after they experiment and examine results.
- Lower left: Finally, they assess both the intended and unintended consequences in order to better plan for new experiences.

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them see a situation from many different viewpoints. Otherwise, it is easy to become stuck in one's traditional way of looking at things. However, work situations are not always set up, physically or psychologically, for feedback.

Another difficulty is that adults have worked hard to become who they are; continuous learning demands that they continuously unlearn past lessons and become anew, which leaves them vulnerable. Since work environments have not traditionally tolerated mistakes, the consequences of being a continuous learner may be serious. Continuous learners ask questions and challenge the beliefs of others in a way that may be misperceived as threatening. We should not also forget that people conditioned to be passive do not become proactive overnight.

Second, reflective practice is harder for adult educators to implement because it is not contained in classes that can be planned, described, carried out, and counted. Continuous learning does not have a clear beginning, middle, and end. It is harder to "steward," that is monitor, evaluate, and account for to higher levels of management. Reflective practice can make trainers uncomfortable because it makes their role unclear. If they are not conducting classes, what do they do to support ongoing learning?

Finally, there are many organizational impediments to reflective practice. Every reader already has identified his or her own top ten reasons why this will not work in *my* organization, so we do not need to enumerate them here. These impediments stem primarily from organizations being bureaucracies that have not been tradionally structured to support empowerment and decentralized learning, even if their employees are ready for it. Each organization must consider factors such as its business, culture, size, and goals in designing a culturally relevant approach that will enable and reward reflective practice. The important thing is the will to start. The enhancement of reflective practice in the workplace begins with the advocacy of those who are committed to it.

TRAINING'S ROLE IN A LEARNING ORGANIZATION

by Tom Kramlinger

The phrase "learning organization" is popping up all over. It appears in U.S. West's vision statement, in National Semiconductor's values statement and in Chevron's statement of human resource strategies. The company I work for says its middle name is "learning" and has added being a learning organization to its core values.

No doubt the framers of many of these descriptions and visions have been influenced by MIT professor Peter Senge's *The Fifth Discipline: The Art and Practice of the Learning Organization* and other pronouncements emanating from MIT's Sloan School of Management. The work of Harvard's Chris Argyris and Richard Tanner Pascale's book, *Managing on the Edge: How the Smartest Companies Use Conflict to Stay Ahead*, have also persuaded many companies to reexamine their traditional values. They are facing up to the demands of the Information Age—an era in which technology ages rapidly and every worker has to be a hired head as well as a hired hand.

But what exactly is a learning organization? Leading writers on the topic generally start with a demand for an awakening of top management. Senge, for instance, talks about "learning laboratories" in which high-level managers participate in simulations and other activities to develop skills in "shared vision, personal mastery, mental models, systems thinking and team learning."

Certainly, top management's ability to think systematically and collegially is important for leading American corporations in these times of change. But companies that call themselves "learning organizations" do not limit the concept to top management. A trainer at Northwest Airlines insists that the goal is "to make everyone smarter at their jobs."

Malcolm Baldrige National Quality Award winners such as Milliken and Motorola talk about learning in terms of continuous improvement—the kind that occurs as front-line people learn to solve systemic problems using tools such as Pareto analysis and fish-bone diagrams. The human resources director of a huge computer company told me that "learning" means getting everyone in the organization to accept change. To Mike Joyce, HR development manager for Chevron, a learning organization is one that "coordinates and optimizes opportunities for learning, utilizing the collective wisdom of the entire work force. It also uses advanced training methods like accelerated learning and interactive media."

Then there's the training director at another corporation who welcomes the "learning organization fad" because she thinks it may help her increase her budget. When I mentioned this comment to a colleague, he countered by asking, "If an organization learns by itself, who needs training?"

In Search of a Definition

So what is a learning organization? I don't think it has an accepted definition. It is still a dream in the making. I hope to put some stakes in the ground for those of us in the training business who ought to know.

One intriguing idea is that business organizations themselves are similar to pupils in a classroom. In other

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words, companies are the ultimate learners. This may strike some as a little spooky. Will muses prowl the halls at night teaching the machines to sing? The instinct is to dismiss the notion as hype or runaway anthropomorphism. Organizations don't learn, people do.

But there is something more than metaphor here if we consider how the corporate training field has dealt with higher levels of complexity over the past decades. For most of its history, the training field considered the *individual learner* to be the unit of analysis. We focused on teaching low-performing individuals to match the knowledge, skills and attitudes of high performers.

If the learning task was relatively simple, we developed a course or program—so many hours of seminar or self-instruction. In the '70s, we attacked more complex tasks, involving skills that needed to build on one another. We did this by inventing entire curricula, with the emphasis on reinforcement, sequence, system benefits and successive approximation. Courses and curricula remain staples of training.

In the '80s, however, we progressed to using *teams* as the unit of analysis for training programs. We began to concentrate on team learning, in which individuals discover ideas together. We stopped calling interventions "courses" and started calling them "workshops" and "team building experiences."

Recently we have devoted energy to an other level of complexity: culture change and corporate alignment. Our aim is to get the whole organization to refocus its norms and behaviors on critical issues such as customer service and quality improvement. In other words, the *whole organization* has become the unit of analysis for learning.

Against this backdrop, let me propose a working definition of the learning organization: A learning organization is a large body of aligned individuals (such as a corporation) whose members at all levels spontaneously learn and innovate in ways that promote the well-being and mission of the organization.

The key words here are:

- **All.** Every individual in the organization is either actually or potentially learning on behalf of the organization.
- **Spontaneous.** Learning does not happen only in formal, stylized ways. Innovations occur anywhere at any time without a mandate from management.
- **Aligned.** The learning does not create chaos. It improves the whole organization and serves its collective purposes.

Let's take a closer look at what organizations learn and how they learn it. Then we can examine what trainers might do to support that learning.

Traditional Organizational Learning

Individuals learn new skills, but organizations learn new business practices. These include:

- How to create and improve the market value of their products.
- How to understand and meet customer expectations.
- How to create and execute new market strategies or new alliances.
- How to absorb and use new technology.
- How to improve and integrate their systems.
- How to improve the quality of their products and processes.
- How to work together with their people to lessen friction and waste.

Corporations have always learned new business practices from external sources such as customers, competitors, suppliers, industry experts, trade journals, and many other bearers of technical data and market information. They have also learned from internal sources such as in-house experts, master performers, senior managers, technical researchers and analysts of operational data (such as production records). They have even learned—though often grudgingly—from creative employees on the front line.

Traditional methods that are used to capture the insights of employees and produce new data tend to be carefully managed processes, formally structured and specialized. They include:

- Research and development departments.
- Market-research activities such as focus groups and surveys.
- Management and technical consultants.
- Hiring managers and professionals with needed expertise.
- Internal surveys, needs analyses and suggestion boxes.
- The infamous "memo" that raises critical issues.

Should training go on this list? Courses certainly can introduce new skills or topics to an organization, but much of the time training merely transmits existing wisdom and information from executives and privileged specialists down to the unenlightened masses.

New Ways to Learn

The emerging ideal of a learning organization is one that would continue to use these traditional methods and would add some new ones as well. But it would hold a different attitude about the source, the flow and the value of learning. When a company calls itself a "learning organization," it is committing to at least some of the following assumptions:

- Everyone can be a source of useful ideas.
- The people closest to the problem usually have the best ideas.
- Learning flows up as well as down in the organization.

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- Nothing is sacred (except the governing vision and values).
- The process of open dialogue improves ideas.
- The more information people can access the better.
- New ideas are valuable.
- A mistake is simply an opportunity to learn.

Therefore, the most important "new method of learning" is for top management and senior HR officials to develop policies and procedures that support these assumptions. Companies that want to become learning organizations are incorporating such principles into their strategies and value statements.

If that strikes you as a terribly vague "learning method," here are some more tangible examples:

Study teams. We used to laugh at Japanese businessmen touring our companies with cameras around their necks. But they taught us something. It's called benchmarking. A group of employees from one company might visit Federal Express, for example, to study how it tracks packages so accurately. The idea is to analyze the "best practices" of companies—including competitors—that do some thing better than anyone else.

Winners of the Baldrige Award are required to open their doors to all curious benchmarkers. The team that makes these visits represents the eyes and ears of the learning organization. Ideally, the team should be composed of both executives and front-line employees.

Executive education. Many companies realize that their senior management teams need to put some dedicated effort into learning. To this end they offer executive sessions, usually led by a consultant, that encourage the top brass to examine, challenge and rebuild their fundamental ideas about the organization.

A "learning laboratory," in which managers examine and test what Senge calls their "mental models" for making decisions, is one way to do it. These laboratories often focus on systems dynamics and the long-term implications of making decisions based on outmoded models that fail to integrate complex points of view. The program may include a computer-assisted business simulation that allows managers to study the sometimes disastrous consequences of their decisions without sinking the real ship. These sessions can have a powerful impact by breaking down old assumptions that prevent organizational learning.

Communications technology. Computers and other communication technologies have had a massive impact on organizational learning at all levels. On-line data bases, for example, can give almost everyone in the organization instant access to important information that allows them to solve problems as they occur. Lower-level employees no longer have to ask for help from experts or decision-makers up the line. Similarly, expert systems and other smart tools distribute the wisdom of an organization, and make it possible for front line workers to solve problems that formerly were beyond their ken. Giving employees more access to information promotes widespread learning.

Empowered employees. Another way that organizations learn is through empowered employees. Enlightened companies, usually driven by the need to respond rapidly to changing market conditions, tell employees to think for themselves and take action to solve problems. This is the equivalent of putting the power of organizational learning into the hands of employees. We see this happening in several ways.

One way is through the team phenomenon. More and more task forces, process-improvement teams and self-directed work units are being given responsibility for innovations and improvements, as well as the authority to act upon what they learn.

The total quality movement is another example. Front-line workers and teams are asked to measure their own quality data, run experiments and take responsibility for making improvements. They check with internal customers and stakeholders to keep their spontaneous learning aligned with the organization's needs.

Sales and service people are being invited to gather "market-back" information about customer desires and new applications. This information is being welcomed and even solicited by marketing and R&D departments, both of which previously disdained such channels.

Companies determined to become learning organizations experiment with one or more of these methods. Their objective: to engage all their employees in improving business practices.

So Where Does Training Fit In?

In a learning organization, the role of training is to support the forces and methods that favor widespread, spontaneous learning. This means that the training function needs to be redefined.

Traditionally, corporate training programs have served mainly to pass on the learning of the higher-ups to the lower downs. That is, executives or specialists figure out what everybody needs to know and how everybody ought to do things; training courses exist to organize and transmit that information. This model assumes that organizational learning occurs primarily at the top levels. Managers ask specialists—such as consultants or people from R&D—to help them do the learning. The training function then spreads this learning (as well as existing expertise) around the organization, particularly to lower-level employees who would not have been exposed to it on their own. To be fair, training often introduces and spreads learning to the management ranks as well.

This model of training's role remains valid only if we limit our view of organizational learning to executives and specialists. In a full-fledged learning organization, however, learning occurs at all levels. The role of training is to support everyone's learning efforts, although the type of support offered depends on the individual's level of responsibility.

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In working with executives, trainers should:

- Urge them to adopt policies that encourage and reward widespread and spontaneous learning.
- Introduce the idea of the learning organization into executive development courses. Discuss the importance of leading by example, and encourage executives to acknowledge ideas that come from the field or shop floor.
- Facilitate or promote learning laboratories in which executives experiment with business and system models that challenge their assumptions about how the business works and where the best ideas come from.
- Volunteer to serve as a learning consultant for every business problem that requires people to change what they do. Help executives draw upon the knowledge and expertise of front-line employees to solve problems—rather than simply imposing a decision.

In working with middle managers, trainers should:

- Introduce ideas into the management development curriculum that will help them encourage learning at lower levels. Teach managers how to develop employees so that they can learn and act on their own. (A good resource is David Bradford and Allen Cohen's *Managing for Excellence*.)
- Teach them more listening and negotiating skills so that every interaction with other departments becomes an act of learning—even if they don't call it that.
- Volunteer to facilitate sessions with managers and their subordinates to draw out good ideas from everyone. Point out later to managers how much was learned and contributed.
- Sponsor cross-functional forums and workshops on current business issues. Again, call attention to how much each group learned from others.

In working with front-line teams and individuals, trainers should:

- Rewrite all training materials to focus on outcomes involving quality and customer satisfaction. These outcomes have the greatest chance of inspiring people to learn and innovate on behalf of the organization.
- Teach courses that emphasize versatility, listening, problem-solving and risk taking to build up the skill base necessary for independent learning.
- Add application modules to existing courses so that learners get experience in immediate application and a chance to share what they learned.
- Insist that work units attend training as intact teams, so that they can plan, practice and reinforce the application of new skills.
- As part of each course, ask learners to continue to refine the ways they apply new skills and to pass on those applications to others in the organization.
- Commission cross-functional study teams to bring in information from outside the organization. Help them put on a workshop to share what they learned with other employees.
- Create forums for employee ideas. Sponsor people to make presentations at professional associations.
- Revise competency models, job descriptions and development plans to include items on learning and continuous improvement

Goodbye Courseware?

Does all this mean that training should give up its traditional role of providing courseware for individuals? Should we become learning consultants rather than instructors?

The answer is, yes and no.

Yes, we should become learning consultants who are aware of the evolution of our craft and the organizations we serve. If we only provide courses and curricula to build established competencies in individual learners, we will be working on the trailing rather than the leading edge. We need to act as consultants to advance the art of learning at all levels in our organizations.

At the same time, the answer is no. Courseware is the primary "deliverable" of the training function, it justifies training's existence and provides it with a source of power.

Organizations need courses to maintain a competent workforce. We can use courses to promote learning in the broader sense. For example, we can teach the communication and problem-solving skills that support learning. We can demand on-the-job learning applications. Whenever employees leave a course without being able to describe how they will build on what they've learned for the benefit of the organization, our courseware has failed.

Maybe the "learning organization" is a fad—or at least a metaphor—that will wear thin. Maybe we will never agree on its definition. But the underlying value of spontaneous, purposeful learning by everyone in the organization is worth promoting.

Naturally, our jobs will be easier if executives already endorse the concepts behind the learning organization. If they have not, we must teach them the benefits of doing so. Even if they are reluctant to go in this direction, we can succeed in many small ways—just as we have succeeded in introducing many other advances in our companies through patient encouragement. Have we not been an inventive bunch of organizational teachers in the past?

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REVIEW OF THE ORGANIZATIONAL LEARNING LITERATURE

Source: "Organizational Learning: A Review of the Literature with Implications for HRD Professionals," by Nancy M. Dixon, *Human Resource Development Quarterly*, Spring 1992, pp. 29-49

"Organizational learning is a conceptual framework that holds considerable promise for improving organizational effectiveness," contends the author. "HRD professionals are uniquely positioned to facilitate organizational learning because they are the recognized learning specialists. To succeed, however, they must design new learning processes rather than simply expand old methods." In this article, the author first explores the 3 forces which are intensifying the importance of the learning organization: (a) the changing nature of work, (b) the competitive challenge posed by a global economy, and (c) the increasing pace and unpredictable nature of change. While the literature on organizational learning has been reviewed 5 times in the past decade, she takes another look at it from the perspective of HRD. She organizes the literature into 5 major areas, and within each, she seeks to draw lessons especially helpful to HRD professionals. These relate to:

- **Acquisition of information**, both internal and external,
- **Distribution and interpretation of information.**
- **Making meaning**, through both analysis and interpretation,
- **Organizational memory**, internal and external, and
- **Retrieval of information**, both automatic and controlled. (AN77)

MANAGEMENT PRACTICES IN LEARNING ORGANIZATIONS

Source: "Management Practices in Learning Organizations," by Michael E. McGill, *et al.*, *Organizational Dynamics*, Summer 1992, pp. 5-17

As organizations have been assessed on their ability to learn in the last several years, most companies are still characterized as being in an "adaptive mode," and they focus on incremental improvement to existing products, markets, services, or technologies. The authors discuss organizations in this category, such as GE and Sears, and note that "adaptive learning organizations can continue their pattern of past success so long as the competitive environment remains relatively static.... Adaptive change blinds companies to the need to examine the way they define and resolve problems." Next, the authors consider companies which have relied on "generative learning" to transform their organizations and to markedly improve their effectiveness: Arthur Anderson, Kodak, Gruppo GFT, Taco Bell, and IBM. The key ingredient, say the authors, lies in how organizations process their managerial experiences. Generative learning organizations are able to learn from the external world, from the organization's/manager's own actions, from the organization's/manager's own problem-identification, and from organizational consciousness—while adaptive organizations experience events on only one level at a time. The meat of this article is the authors' analysis of the 5 managerial practices found in generative learning organizations:

- **Openness.** This requires that managers be willing to suspend their need for control, and it also requires what the authors call "cultural-functional humility."
- **Systemic thinking.** This trait is the ability to see connections between issues, events, and data points—the whole rather than its parts.
- **Creativity.** Two aspects of creativity are particularly important for learning: personal flexibility and a willingness to take risks.
- **A sense of efficacy.** Managers with a strong sense of personal efficacy feel that they can and should learn to significantly influence their world, and they are actively self-aware and proactive problem-solvers.
- **Empathy.** Managers in learning organizations must be sensitive to and concerned for human nature, and they must be interested in and capable of repairing strained relationships.

The authors suggest specific management practices which will promote each of these learning elements. (AN78)

WORKSHOP FOR CULTIVATING A LEARNING ORGANIZATION

Source: "A Learning Company Workshop," by Jeffrey Gold, *Training & Management Development Methods*, Vol. 6, No. 1 (1992), pp. 3.05-3.12

In this "age of the learning company," as the author refers to it, there is the need for managers to examine the concepts noted in Pedler, Boydel, and Burgoyne's *Learning Company Project Report* (1988). The author presents the outline of a Learning Company Workshop developed for Leeds Business School's MSc degree program in the Management of Human Resources. The workshop is timed to last between 4 and 7 hours, and sessions include:

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1. Introduction and discussion of the Learning Company,
2. Small group work on (a) describing the organization in one or 2 sentences and (b) drawing a picture of it,
3. Group reports,
4. Discussion of the concept of the metaphor and its relation to organizations and learning,
5. Small group discussion on the question, "How do the ramifications of the machine metaphor affect training and development in your organization?"
6. Small group discussion of one's organization as a Learning Company (processes, characteristics, effectiveness), and
7. Final group reports.

In essence, says the author, participants will be going through a process of "imaginization," where they "develop a proactive attitude in relation to the way organizations are and how they could be." (AN79)

LEARNING IN THE "NEURAL" ORGANIZATION

Source: "Opinion: Learning in the "Neural" Organization," by Ted Hutchin, *Education & Training Technology International,* Vol. 29, No. 2 (1992), pp. 105-108

While the traditional model of the hierarchical organization has been giving way to the matrix model, the author contends that the neural concept is much closer to the truth of how an organization functions and learns. He describes the neural networks of the mind, in which each neuron is connected to 2 or more other neurons. They can each receive many messages, negative or positive, which the neuron sums in order to make a decision. In organizations, he says, each person receives many inputs from a variety of media. The person then makes decisions; sometimes more than one connection is made or not made. "It becomes vital," he adds, "to see these networks as the true reality of functioning organizations." Can organization be said to have a similar thinking process to humans? He thinks so. He categorizes communication on a continuum between productive and counter-productive, between consonance and dissonance. Then he notes two levels of operation within each organization, the covert and the overt, the formal and the informal. For trainers, he concludes, it is important to recognize that any one perceived method may or may not aid the learning process, and that the onus is on them to identify the most appropriate method and make it work. (AN80)

THE FIRM AS A LEARNING LABORATORY

Source: "The Factory as a Learning Laboratory," by Dorothy Leonard-Barton, *Sloan Management Review,* Fall 1992, pp. 23-38

This article examines what the author sees as a new trend in business—that of running the organization as a "learning laboratory." She first defines the learning laboratory as a place dedicated to knowledge creation, collection, and control—with contribution to knowledge as a key criterion to all activities. She cites Chapparal Steel of Midlothian, TX, as a firm that exemplifies this concept. This company, the US's tenth largest steel producer, has a tightly integrated organic learning system that, says the author, can only be comprehended as a whole. Furthermore, she notes, the learning system is in a state of continuous flux, constantly regenerating itself. Developing such an environment in the corporation requires holistic, systems thinking and an acceptance of the practical utility and bottom-line impact of corporate values. She examines 4 distinguishing subsystems to the learning laboratory:

- **Owning the problem and solving it,** which is characterized by: (1) independent problem-solving, (2) egalitarianism and respect for the individual, and (3) shared rewards as the reinforcing incentive system,
- **Garnering and integrating knowledge,** which entails: (1) integrating internal knowledge, (2) sharing knowledge, and (3) providing for continuous learning through apprenticeships and education,
- **Challenging the status quo** through continuous experimentation, positive risk-taking, and reinforcing these values in hiring practices and career path opportunities, and
- **Creating a virtual research organization through networking,** by integrating external knowledge, being open to knowledge from the outside, and investing in the resources necessary to forge alliances and networks.

Each of these 4 subsystems are interdependent, which paradoxically is the primary weakness of this system, the author says, adding that learning laboratories may have trouble recreating themselves and growing beyond their present dimensions. The author concludes with a brief discussion of points to take into consideration for any company contemplating conversion to a learning laboratory. (AN81)

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Section 4
Training Technology

One hundred years from now, historians will look back on this as the golden age of computerization—an era of rapid technical advance, with a constant stream of new applications challenging the ability of professionals in every field to absorb them. Certainly this is true of the HRD field. The capabilities of training technology continue far ahead of our ability to implement them. Take for example the concept of "virtual reality," which got considerable play in the literature this past year. Many of us have seen news reports of computer-users with stereoscopic CRTs worn like goggles and computer-connected gloves that make it possible for one to appear to be in—and interact with—a computer-generated world. An article and some accompanying abstracts in this year's subsection on "virtual reality" explore the possibilities for applying this new technology to training. For most of us, the practical application may be decades in the future. But it is important to be informed about this and other seemingly exotic technical issues now because, although some technologies may falter, others accelerate and become commonplace faster than we thought possible, leaving us struggling to keep up with the field we thought we knew.

Actually there are two struggles going on for most of us. Besides the struggle to keep up with the new technology, there is the struggle to implement last year's (some would say last decade's) technology in our organization. This is the perspective with which we start this section of TDY: practical advice on implementing new technology and—most importantly—getting the timing right. This lead article is followed by the "Interactive Multimedia Matrix™," a job aid for controlling a multimedia development project. And the subsection on managing computer-based training is rounded out with an interesting look at the use of CBT to certify key employee skills.

Authoring systems have put the design of computer-based training within the reach of the average instructional designer, and perhaps the average trainer, as well. And these systems have become increasingly intuitive and facile. Yet, with more trainers turning to them to develop more CBT courseware, the problem of choosing among them remains a challenge—especially against the backdrop of ever-changing technology. Fortunately, in 1992 there were a large number of very useful articles on selecting an authoring system, of which we have reprinted one of the best and abstracted the rest.

The remaining subsections cover specific training technologies. The first of these addresses interactive video and features an article that will help you decide between designing a given program as ordinary computer-based training or as interactive video. The next subsection highlights research on the extent of multimedia use, a case study, and some recent developments in multimedia, such as M-Motion. The following subsections likewise consist of abstracts of some of the latest thinking about (and applications of) hypertext, simulation, and virtual reality.

Electronic performance support systems seem to be growing rapidly in acceptance throughout the world of work. Our coverage of this subject begins with an overview of the EPSS and then proceeds to an article in which Ruth Colvin Clark warns readers that the EPSS must be used carefully and may have been oversold.

The present section concludes with some resources on teletraining—an overview article on teleconferencing and another on advice for creating effective televised training, plus the usual abstracts and case studies.

Clearly, many of the technologies addressed in this section will be out of the question for many readers, whose budgets, whose expertise, or whose organizational climate limit them to lower-tech training solutions. If this describes your situation, it is still well to have some familiarity with these technologies, since some or all of them will work themselves into your experience not too far down the road. Besides, we always walk more confidently if we have a good idea of the direction in which we are headed.

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A. MANAGEMENT OF COMPUTER-BASED TRAINING

THE HURDLES OF TECHNOLOGY TRANSFER

by William B. Whitten II

In 1980 I saw a fascinating demonstration of computer-controlled audio-video that illustrated procedures of bicycle repair and showed detailed ballet movements. User control of the images clarified details that were usually difficult to discern and remember. At the time, I imagined widespread adoption of such multimedia capabilities to explain and teach concepts and skills.

In 1980 the technology that could provide randomly accessible audio-video was the laser disc. By 1985, the cost of mastering such discs had improved tenfold, computer graphics had improved dramatically, and several technologies for digitizing audio had become affordable. It seemed that the time had come to embed full-fledged multimedia explanatory systems into the workplace, so we accepted the challenge. Over the next six years we learned much about multimedia technology, but we also learned a great deal about the process of transferring technology from "possibility" to "product." If you set out on this course, you will find a series of hurdles to jump. You will not be surprised to find technical hurdles—some large and some small—but you may be surprised to find many very large hurdles with labels like "sponsorship," "organization," and "timing." In this article, I will describe these hurdles and will give advice on how to jump them.

Sponsorship Hurdles

Cultivate Deep and Wide Support. In order to transfer technology from an idea to a product where it is really used, you will need consistent, unwavering high-level sponsorship. Sponsorship means more than just funding: It means that a number of people with the power of the purse believe that what you are doing will have a fundamental effect on the business.

Ideally, sponsorship for your project should be both deep and wide. It should be deep in the organization such that it is understood as far up the hierarchy as possible. In addition to that, sponsorship should be broad. That is to say, a number of people within each level should understand the importance of the work and should be impatient for the work to be completed.

Dependable sponsorship requires that several people in charge of the business and its finances understand the work, want the work, and will pay for the work. It is important to have deep and wide sponsorship because organizations are always changing.

Obtain Simultaneous Support for All Stages. Unless the technology you are dealing with is trivially simple, you will need simultaneous sponsorship for all stages of the project. There must be support for future-oriented work, as well as for the effort that will create a near-term product. When you are working with a new technology, you will need to continually strive to update your product to stay on the cutting edge, and at the same time, you will need to attempt to deliver a completed application that can justify the expense of your work. The best sponsorship, therefore, will be from people who understand the continuum from early work through finished product.

Create a Multi-Year Plan. People are notorious for underestimating the amount of work it will take to achieve success when dealing with new technology. It is not uncommon to miss the estimate by 100 or 200 percent. This difficulty in estimating implies that sponsorship must be flexible and must be willing to commit to multi-year projects. Projects that transfer complex technologies usually require multi-year plans with multi-year funding.

Educate Your Sponsors. Japanese companies are frequently admired for being able to produce new products in amazingly short intervals. We, in American companies, are being pressured to do likewise. By reading case studies of actual products being developed by Japanese companies, I have found that they may have had three-, four-, or five-year development schedules. Apparently, the popular press does not dig deeply enough to discover that the ideas for certain new products go back several years. If they looked into this in detail, they might find that a more important difference between the Japanese development process and the American development process is that key employees in the Japanese corporations stay with their projects from the early concept until the completed product (e.g., Lamm, 1990). I expect that this provides continuity, enthusiasm, and dedication. In American organizations we tend to move people from project to project in short intervals. This fosters a willingness to quickly abandon current work for

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greener pastures, and generally undermines the development of true expertise. If this is the norm in your business, you will have to educate a succession of sponsors to avoid losing their support.

Calculate Costs and Benefits. One of the most significant but most difficult hurdles to overcome when gaining sponsorship for your project is to justify the costs compared to the benefits. It would seem straightforward that whenever starting any substantial project you should very carefully estimate the costs and enumerate the benefits. As you might imagine, however, if something is truly new, you will only be able to guess what the benefits are. You will not be able to quantify those in strict terms, and you will not even be able to know the real cost until you are deep into the project. The cut and dried mathematical cost benefit model for making business decisions is mostly fiction when you are working with really new technology. Mainly what you can do is enumerate the potential benefits, put some wild guesses on them in terms of dollars, enumerate the potential costs, and see if it makes sense to take a chance. Ultimately, however, high-level sponsorship must include a vision of the future and a leap of faith by the sponsors.

Organizational Hurdles

Successful technology transfer will cause organizational change. Such change may occur in the producing company, or it may occur in the organizations of the customer that will use the technology, and most likely it will occur in both. To achieve successful technology transfer, you must learn the fundamentals of organizational change, and you must understand the dynamics of the situation you have entered.

A consulting company called ODR Incorporated, based in Atlanta and headed by psychologist Daryl Conners, has developed extensive course work to explain sponsorship and organizational change. Four kinds of players have been identified (Conners, 1991). **Sponsors** are one type of player, and the requirements of sponsorship have been discussed above. The roles of "advocates," "targets," and "change agents" are discussed below.

Enlist Advocates. An advocate is someone who does not have the power to sponsor you, but nevertheless believes that what you are doing is right. An advocate in your organization might be your immediate boss who values what you are doing but does not have the money to pay for it because the money comes from an outside organization or from a higher position in your organization. The advocate can help you achieve your goals by being a consistently vocal and visible supporter and cheerleader. The advocate's role is to assure the continuity of sponsorship by continually looking at the organization as it changes and by making sure that any new people that step into positions are briefed on the importance of the work and are brought into the fold of sponsorship.

Identify Targets. The third group of people affected by the new technology are called "targets" by Conners. Targets are those people who are affected by the new technology whether they want to be or not. If you want technology transfer to be successful, targets are a key group for you to consider because they may be the primary source of resistance to change. Some will have legitimate reasons to worry: Your technology could eliminate their jobs or could cause them to have to undergo extensive changes in how they do their work. On the other hand, your technology may improve the jobs of the targets, and if you are able to explain these improvements, you may find them to be your strongest advocates.

Learn to Be a Change Agent. The fourth class of people identified by the change management experts are called "change agents." If you are advocating new technology to be used in specific ways, you are a change agent. The change agent has the most difficult job because the change agent has to find, establish, and maintain sponsorship. The change agent must educate and retain the interest of the advocates. And, the change agent must be concerned about the effects of the new product-positive and negative-on the targets.

Understand Your Company's Organizations. Sponsors, advocates, targets, and change agents all live in organizations within your corporation. To effect technology transfer, you must understand how your corporation is organized and how the technology that you are advocating will potentially affect each organization. Understanding these organizations requires ongoing, dedicated effort since it is likely that your initial ideas of which organizations will be affected will be far from correct.

I'll use our experiences to illustrate this point. When we started our work, I thought of it as an extension of the user interface that would provide all of the knowledge needed to perform a job in an easily understood and immediately available form. From this point of view, the main organizations affected would be those that develop new systems. Traditionally, however, explanatory information has been subcontracted by the system developers to specialized training and documentation organizations. To achieve successful technology transfer, we have had to work with all three types of organizations. This is a challenging situation because each type of organization has clear goals and budgets to support "business as usual."

Learn Your Way Through the Matrix Management Maze. A common corporate organizational structure consists of a series of parallel hierarchies. Each hierarchy has a clearly stated function, but it is rare when one hierarchy contains all the resources and expertise necessary to create and market a product. This means that these hierarchies are interdependent. When you enter one hierarchy to work on an aspect of a product, you will frequently find yourself loosely linked to another hierarchy that yours is serving or that is serving yours. If you find yourself in this position, you have entered the Matrix Management Maze. Whether or not it is officially recognized as matrix management will make little difference. You will have to recognize where you are and try to find your way out.

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The effect of the maze on technology transfer is profound. If you do not find the way out, the maze will kill new technology because it will choke out all forms of change. As far as I can tell, there is only one way out, and that is to bring the top managers of each hierarchy together to form a new team that can make cross-functional decisions and have conjoint responsibility for the outcome. If you cannot do this, you may find yourself in an infinite shuttle between hierarchies.

Master the Hierarchy Hop. On your way out of the Matrix Management Maze, you will need to master the Hierarchy Hop. That is, you need to learn to jump to the level in the hierarchy where decisions and commitments are made. Find the highest level person that you can meet with and the lowest level person who can pay for the work and get those people together. If they like the work, ask them to do some of the necessary follow-up work to assure reliable sponsorship. If they will, you have found the right people and are working with the appropriate levels of your hierarchy.

After you obtain funding, you will need to spread the base of sponsorship and advocacy by showing your work to as many people as possible. When you are obtaining initial support, however, you need to hop to the optimal position in your management hierarchy, because you will not live long enough to present your ideas to all the people who *might* have an interest in your work.

Cause the Necessary Organizational Changes. Once you understand the changes that must occur, try to make them happen. The deployment of multimedia knowledge systems will probably require trainers and technical writers to be brought together into a unified organization with system developers. They will need a new mind-set or frame-of-reference for their work. They will have to learn to write in modular fashion, write scripts for listening, create many more visual elements, and learn some of the multimedia production techniques. They may need to think of themselves as "performance support" experts instead of as writers, teachers, or course developers.

Our work has required us to form cooperative liaisons with training, documentation, work center, and system development organizations. These liaisons are not necessary to develop multimedia capabilities. They are essential, however, to bring about the organizational changes required for technology transfer.

Be Sensitive to the Effects of Your Technology on Its Users. When a new technology is introduced to the workplace, characteristics of jobs will change. A job may be improved, but it also could be eliminated, or it simply could be changed in ways that are not perceived as improvements by the workers. The American workforce is experiencing massive change. You might imagine that bringing new technology into this kind of environment will cause some people to wonder, "Is this something that will make us less important?" The challenge is to explain your intentions in terms that will make advocates of those who will be affected.

Timing Hurdles

Timing is everything. When you are working on new technology and trying to transfer it to an actual application, you can be too early, too late, or if you are really lucky, just at the right time.

Too Early

Ahead of the Technology Curve. One characteristic of being too early is that pieces of the technology puzzle will be missing. When we were integrating multimedia capabilities with a PC in 1986, we had to use a laser-disc player for audio-video mass storage. This worked fine, but it was very clumsy to update the content. We needed a practical way to store audio and video digitally, but that technology would not become available and affordable until 1990. If you get too far ahead of the technology curve, achieving your goal will be technically difficult and too expensive.

What Is It? If your work is too early, few people will understand what it is and why it is of value. You may find that you are spending far too much time explaining, defining, and selling your work rather than solving technical problems. You may also find limited sponsorship.

Too Many Types of Problems. If you are introducing a technology early, there may be such a broad array of problems to solve that it may not be clear which problems you should work on and which you should leave to others. In our work, for example, there has been work on hardware, software, system integration, user interface design, multimedia production techniques, and authoring procedures. If you are too early, you will not be able to borrow from others' progress, and consequently may find yourself running in too many directions.

Organizational Inertia. Organizational change is usually driven by discomfort with the status quo. This discomfort must rise to a critical threshold so that people are willing to try new things and to look for better answers. Sometimes the pain occurs when the cost of doing things in the old way is too high, and sometimes it occurs when external competitors start to do things in new, improved ways. Without such pressures, the organizational changes that are needed to support your new product are unlikely to occur.

The Chicken and Egg (or Infrastructure) Problem. When you are too early, you may have the chicken and egg problem. You may enter into endless discussions about whether the time is yet right to invest in the technology base. In the case of multimedia, these discussions may take the form of "We don't have applications yet, so we can't spend money on the hardware and software development," or the inverse, "The delivery platform and production techniques are not quite stable, so we can't spend much money to develop an application." This is a common problem associated with innovation, and generically it is the problem of creating an

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infrastructure to support the new technology. The important realization is that the infrastructure may be more difficult to provide than the technology it supports. Bell invented the telephone by himself, but it has taken thousands of people to create the switching network. Somehow, you have to get out of the chicken and egg problem. I think its resolution is related to the leap of faith that the sponsor must make.

Prototyping Purgatory. Another interesting problem that relates to being too early is what I call "Prototyping Purgatory." Prototyping Purgatory is the state of being constantly caught in prototyping and never being able to go beyond that to make a real product. Prototyping Purgatory may take the form of "make this sample application so that we can show it to customers," but then before you get the sample application completed, some organizational changes may occur, some business priorities may change, or technological advances may outdistance your efforts.

Too Late

Undervalued Skills. Even though you may have begun too early, it is very easy to find that you are now too late. Something may happen in the marketplace that makes what you are doing an order of magnitude easier. If you have worked in the "too early" mode for a while, you will have a background that very few people have, and you will be able to make the right moves to take best advantage of the new technologies. But, if it looks like anybody or everybody can do what you are trying to do, you may not gain full appreciation of your skills.

Premature Standardization. Another problem of being too late in using a new technology is that design innovation may be squelched by premature standards, or worse, by default standards that come about, not through careful study, but simply through use.

Competing Products. Another sign that your application of the technology is too late is that your approach is one of many competing approaches. If your ideas are better and if you have solid sponsorship, this may not be a problem. On the other hand, your progress may be impeded by these competing efforts. They may siphon off funding and other resources, and they may pressure you to make design compromises so that multiple products can co-exist.

Changing Expectations. The product that would have pleased your customer when you started your work may not be acceptable when you have it completed. When you are working on the leading edge, or as it is sometimes called, the cutting edge, you are working with a moving target. Each time you make a decision you are making a risky decision because by the time you get the work finished, new technology may have become available to make what you have done appear old or clumsy. Each time a new competing technology appears, you have to pause and then decide whether it is worth starting over or whether you should finish your product as originally planned. If you complete your originally planned product, it may be eclipsed. If you start over, you may lose sponsorship due to lack of progress. One way to summarize this situation is to say that the cutting edge is not always a comfortable place to be, and sometimes you can get hurt on it.

Just Right

New, but Stable Technology. New technology is often unreliable. It would not be wise to base your new product on the beta-test version of a vendor's technology. Your timing is right if the bugs have been worked out of the technological building-blocks from which you plan to assemble your product.

Developer Community. If you are trying to employ a new technology in a worthwhile way, you are probably not alone. A small user community will exist nationwide, and this community will trade secrets to help each other. Intel's DVI technology, which we have used for full-motion digital video, is a good example of a new technology with this status.

Innovation and Optimization. If your timing is right, you will have the necessary latitude to define user interactions and to work toward an optimal product. This, in turn, will provide the opportunity for creating market differentiation with your product.

Strong Sponsorship. If your timing is right, you will find deep and broad sponsorship. There will be impatience for your finished product, but there will be acknowledgment that some flexibility may be required because you are working with cutting edge technologies.

Imminent Organizational Change. You should see signs that the organizational changes required to support your product are in progress.

Concept Is Widespread. If your work fits within the framework of a popular new label, your stock may rise. When we started our work, the term "multimedia" typically meant a color slide show with some audio in the background. Now, of course, "multimedia" refers to multimedia computing and includes audio, graphics, animation, and usually full-motion or video-like imagery.

In 1985, when we started our work, there was no label that neatly described what we were doing. About three years ago the term "performance support" came into use to describe work such as ours, and in October, 1991, the first national conference on "electronic performance support systems" was held. We expect that widespread use of labels such as "multimedia" and "performance support" will help us communicate the goals of our work.

This brings me full circle in my discussion of timing, whether too early, too late, or just right. Sometimes you might achieve all three of these. I think that when we started we were too early. What we did was technically difficult. Now the concept behind our work is becoming widespread, and we are on the verge of being too late. The essential novelty of what we are doing, the ability to study the best way of doing it, and the opportunity to create

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standards is being threatened. On the other hand, if we have proper sponsorship, we are probably "just right" because we have had six years of experience, we have learned through trial and error and hard work many things in the areas that intersect to provide multimedia knowledge systems, and we are now prepared to create systems that can bring a new era of on-the-job learning and self-sufficiency to adult employees in a great variety of businesses.

Conclusion

Technology transfer is the final step toward innovation. It is important to realize that some of the hurdles you must jump are issues of sponsorship, organization, and timing. Careful attention to these issues, as well as to the more obvious technical ones, will greatly increase the likelihood of successful innovation.

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TDY 93/94 RESEARCH SUMMARY: ENHANCING CBT WITH SOCIAL INTERACTIONS

Source: "The Effects of Student-Instructor Interaction and Paired-Individual Study on Achievement in Computer-Based Training (CBT)," by Stanley D. Stephenson, *Journal of Computer-Based Instruction*, Winter 1992, pp. 22-26

How valuable is social interaction in CBT? The authors studied 84 college business statistics students who were using CBT to learn how to use a computer spreadsheet. Students, tracked by level of computer experience, were divided into 4 groups: (1) paired students with no instructor interaction, (2) paired students with instructor interaction, (3) individual students with no instructor interaction, and (4) individual students with instructor interaction. Students were scored both on their performance on an assigned statistics exercise, and on the number of spreadsheet commands actually used to complete the exercise. The study showed strongly that students working in dyads outperformed students who worked individually. Some of the data supported the hypothesis that instructor interactions helped individual students. The effect of instructor interactions on paired students was not very significant. Some of the implications of this study, according to the author, are as follows:

- Students should take CBT courses in pairs, and software should be written to acknowledge that fact.
- Instructors should be trained to work with students who are arranged in a team environment.
- The entire approach to CBT should incorporate social facilitation in the planning and implementation stages. (AN82)

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TDY 93/94 RESEARCH SUMMARY: ATTITUDES TOWARD COMPUTERS AFFECT CBT SUCCESS

Source: "The Role of Individual and System Characteristics in Computerized Training Systems," by Michael D. Coovert, *et al.*, *Computers in Human Behavior*, Vol. 8, No. 4 (1992), pp. 335-352

This article describes 2 experiments to determine the role of attitudes towards computers in relation to the success of CBT.

- The first experiment studied 120 undergraduates who had no previous computer experience. The subjects completed an attitude-toward-computers scale, which examined their view on the computer as a tool and as a controlling force in their lives. After experience using a computer program, participants were interviewed about their experience. Statistical analysis of the results showed that attitude toward computers has a direct influence on both (a) how an interaction with a computer is perceived and (b) on the preference and choice a person makes regarding interacting with a person or computer in the future.
- In the second experiment, 60 subjects were given 3 scenarios of expert systems with 3 levels of power. Results indicate that individuals prefer systems with either low or moderate power. Systems which initiate action on their own are not viewed positively. (AN83)

STAYING ON TRACK WITH MULTIMEDIA

by Shawnja D. Yamaguchi

The Interactive MultiMedia Matrix™ or IM³™ is a tool which provides a framework for an "ideal" interactive multimedia (IMM) training program.

To accommodate today's fast-paced and shifting training environments, IM³ was developed to track and control the continual changes that occur in complex projects such as interactive multimedia. It is a set of IMM production guidelines which maintain systematic instructional design methodologies to ensure that the training produces intended and predictable results. Integrating three different disciplines, each with their own set of terminology, IM³ is a job aid which:

- Defines the scope of an IMM project,
- Educates clients and team members,
- Provides an "at a glance" project tracking checklist,
- Serves as an effective marketing tool when accompanied by a cost justification model,
- Provides a foundation for team cost estimates thus increasing the accuracy of project bids and
- Serves as a flexible working document.

IM³ is a representative, **not** a comprehensive guideline, and it is intended to streamline production processes and produce consistent results. The processes are not necessarily hard and fast, but remain flexible. In the "real world," tasks and responsibilities from one phase are often conducted concurrently with other phases; therefore, IM³ phases are designed to build upon each other and overlap. Its flexibility allows easy integration of new tasks and responsibilities at various phases to suit changing needs. For example, IM³ assumes that the IMM training program will use motion video as the delivery vehicle. If a non-motion video format is the intended delivery method, both the personnel and tasks/responsibilities would need to change.

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Like good IMM design, the heart of IM³ is instructional design. It represents the science and art of sound theory balanced against time, money and technology.

The author wishes to express special thanks to John Hara for providing his support and guidance to make IM³ a reality. For reprint permission or additional information, Contact Shawnja Yamaguchi at Imagist, 1505 Alexander Street, Suite 601, Honolulu, HI 96822-4946 (808/945-3933 or FAX 808/941-1693).

Phases of the Interactive MultiMedia Matrix™ (IM³™)

(see pages 4.10 - 4.11)

Initial Analysis

The information gathered at this phase will align expectations, identify issues and evaluate the client's knowledge base before attempting the interactive multimedia project. Information can be compiled through a questionnaire, a short meeting or phone interview, and documented as a formal or informal Request for Proposal (RFP).

Overview Orientation

Based on the initial analysis, it is possible to conduct an informal education session for management, SMEs, and/or internal team members. This should not attempt to cover the entire IMM process but be tailored to empower them to make informed decisions about their project. The orientation can be conducted within a lunch hour and should include a few handouts summarizing relevant issues.

Proposal

Based on the feedback received during the initial analysis and orientation, you are now able to define the project from a financial and production perspective. This proposal should contain enough information so that the client can envision the results and justify the investment. Until more analysis is completed, it is almost impossible to define exact costs; therefore, it is usually acceptable to set a "not to exceed" budget which can be broken down into phases.

Front-end Analysis

This phase identifies whether training will solve performance deficiencies by defining who and what needs to be taught in order to meet business goals. The skill and/or knowledge gap between what exists and what is needed provides the data necessary to begin the next phase of design.

Design Strategy and Specification

In this phase, information that has been gathered from the Needs Analysis is used to build a course blueprint. The result of this phase is a carefully crafted Design Document that outlines the scope and structure of the IMM training program. This is also when issues of implementation and the process for maintaining the course are defined. Exact costs for the entire project can now be finalized and included in your documentation.

Paper Prototype

Refining the basic elements in the design, the course content is detailed, organized, sequenced and tied to actual learning activities through a Paper Prototype. This rough draft allows content experts to review materials thoroughly to ensure that the content is accurate before proceeding to the pilot. A few electronic sample screens can be produced at this phase to help define interface considerations as well as look and feel.

Pilot Test

In this phase, a few people, who may or may not exactly represent the intended audience, evaluate the Paper Prototype for final content and course structure. The result of this phase finalizes the design and provides a foundation for continuing the evaluation process. Client sign-off is necessary at this point before actual production can begin.

Pre-production

A familiar video production term, this phase has been incorporated to finalize issues so that delays do not exist, or, are kept to a bare minimum during the production phase. No "deliverable" is required at this time; however, client and team communication needs to remain constant and consistent.

Production

In this phase, the Design Document is translated into physical materials. The biggest challenge of this phase is the massive coordination of different types of experts who make up the production team. After successfully completing this task, you have a rough electronic version of your program.

Post-production/Pre-mastering

All of the production elements are now combined, resulting in a fully functional Electronic Prototype of your training program. If appropriate, check-discs are recommended and are available at a relatively low cost from disc manufacturers.

Field Trial

Using the Electronic Prototype, a field test is conducted with the intended audience under the same or similar conditions as the final course would be presented. The field trial allows you to validate the design and makes it possible to incorporate minor revisions at reasonable cost.

Final Delivery/Implementation

The Electronic Prototype, with revisions, is mastered into its final form. The training program is released and distributed and trainers are trained. Hardware and software are installed with centralized and decentralized training strategies put into place. Plans for maintaining the course are also reviewed and finalized.

Summative Evaluation/Maintenance

Evaluation occurs throughout the design and development of the training but this stage validates the learning and determines whether the training is a success. If changes are required, they are systematically incorporated. Maintenance provides the opportunity to extend the life of the course, protecting the initial investment for both learners and clients.

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Interactive MultiMedia Matrix™ (IM³™)

TIME	PHASES	PERSONNEL	TASKS AND RESPONSIBILITIES		
WEEK 1	INITIAL ANALYSIS	Client Management Instructional Designer (ID) Project Manager (PM)	**Define:** ❑ Immediate needs	❑ Business/training goals	❑ Content scope
WEEK 2	OVERVIEW ORIENTATION	Client Management ID/PM Subject Matter Expert (SME) Team Members	**Educate:** ❑ Timeline and costs ❑ Realistic expectations	❑ Commitment levels ❑ Return on investment	❑ Advantages ❑ Disadvantages
WEEK 3 WEEK 4	PROPOSAL	ID/PM Copy Editor Graphic Artist (layout)	**Document:** ❑ Needs ❑ Objectives	❑ Audience ❑ Recommendations	❑ Outline treatment ❑ Production
WEEK 5 WEEK 6 WEEK 7	FRONT-END ANALYSIS	ID/PM SMEs	**Define and analyze:** ❑ Needs ❑ Job	❑ Tasks ❑ Resources	❑ Existing materials ❑ Content
WEEK 8 WEEK 9 WEEK 10	DESIGN STRATEGY AND SPECIFICATIONS	ID/PM SMEs Writers Programmers Video Producer/Director Graphic Artists/Animators H/W Engineers	**Define Scope:** ❑ Strategic goals ❑ Curriculum ❑ Legal issues ❑ Assumptions	**Define structure:** ❑ Personnel responsibilities ❑ Security issues ❑ Reporting structure ❑ Facilities ❑ Budget ❑ Schedule/Timelines	**Instructional strategy:** ❑ Performance objs. ❑ Sequencing ❑ Content outline ❑ Lesson structure ❑ Practice/Feedback ❑ Learning styles ❑ Materials
WEEK 11 WEEK 12	PAPER PROTOTYPE	ID/PM SMEs Writers Copy Editor Programmers Video Producer/Director Graphic Artists/Animators	**Project management:** ❑ Legal concerns identified ❑ Spec software ❑ Team building ❑ Coordinate team	**Instructional design:** ❑ Enabling objectives ❑ Final content ❑ Testing/evaluation screens ❑ Tracking media elements ❑ Maintain consistency	**Graphics:** ❑ Create storyboard ❑ Spec graphic styles •Animation •Prompts •Menu/info screens
WEEK 13 WEEK 14	PILOT TEST	ID/PM Client Management SMEs	**Evaluate:** ❑ Prototype	❑ Supplemental materials	❑ Evaluation criteria
WEEK 15 WEEK 16	PRE-PRODUCTION	ID/PM Video Producer/Director S/W & H/W Engineers	**Project management:** ❑ Secure equipment ❑ Purchase software ❑ Secure printer ❑ Secure manufacturer	❑ Facilities management •Reserve post production •Reserve studio time •Reserve disc facility	**Instructional design:** ❑ Coordinate artists, programmers, writers, and engineers
WEEK 17 WEEK 18 WEEK 19 WEEK 20 WEEK 21	PRODUCTION	ID/PM SMEs Writers & Copy Editors Programmers Video Producer/Director Graphic Artists/Animators	**Project management:** ❑ Facilities mngmt. ❑ Team/client communications	**Instructional design:** ❑ Instructional consistency ❑ Disc layout & design	**Media:** ❑ Shoot video ❑ Create music ❑ Create SFX
WEEK 22 WEEK 23 WEEK 24	POST-PRODUCTION PRE-MASTERING	ID/PM Printers Editors Video Producer/Director Disc Facility	**Project management:** ❑ Facilities mngmt. ❑ Team/client communications	**Instructional design:** ❑ Instructional consistency	**Media:** ❑ Edit video ❑ Mix audio/music/SFX
WEEK 25 WEEK 26	FIELD TRIAL	Client Management ID/PM SMEs	**Evaluate:** ❑ Prototype	❑ Supplemental materials	❑ Evaluation criteria
WEEK 27 WEEK 28	FINAL DELIVERY IMPLEMENTATION	ID/PM Manufacturer Disc Facility Printer Client Management Technical Support	**Master and duplicate:** ❑ Disc/tape/other ❑ Computer program ❑ Packaging	❑ Supplemental instructional materials	**Purchase and set-up:** ❑ H/W and S/W ❑ Install courseware ❑ Keystroke
WEEK 29 WEEK 30	SUMMATIVE EVALUATION MAINTENANCE	ID/PM SMEs Client Management Technical Support	**Compile and analyze:** ❑ Certification results	❑ Learner/SMEs/Management Feedback	

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DELIVER

❑ Budget allotments ❑ Curriculum issues

❑ Approximate costs

❑ Timeline/schedule ❑ Special considerations
❑ Budget

❑ High-level objectives ❑ Audience characteristics ❑ Curriculum structure
❑ Media delivery ❑ Budget allotments

Interactive components:	Implementation:	Measurement/evaluation:	Maintenance:
❑ Screen design/interface	❑ H/W equipment	❑ Performance measures	❑ Updates
❑ Flexibility	❑ S/W authoring/apps.	❑ Certification levels	❑ Revisions
❑ Flowchart	❑ Media formats	❑ Testing/scoring/remediation	❑ Life of course
❑ Branching configurations	❑ Support materials	❑ Record keeping/tracking	❑ Upgrading
❑ System functions	❑ Pilot/Field/T3	❑ Management reports	
❑ User control	❑ Distribution strategy	❑ Pilot test/Field Trial	

Media:	Programming:	Packaging:	Printed Materials:
❑ Write script	❑ Flowchart (level 2/3)	❑ Graphic specs	❑ Style guide specs
❑ Create storyboard	❑ Language/authoring	❑ Design specs	•Leaders Guide
❑ Character development		❑ Print specs	•Student Guide
❑ Shot sequencing		❑ Content outline	•Job aids

Document and Sign-off:
❑ Learner/SMEs/Management feedback ❑ Anticipated revisions

Media:
❑ Hire talent ❑ Gather props ❑ Format existing media, graphics, and other materials
❑ Rehearsals ❑ Location scout
❑ Select music/SFX ❑ Build sets

Computer and print:
❑ Write supplemental mats. ❑ Layout print materials
❑ Produce animation ❑ Produce screen/print graphics
❑ Program/Author ❑ Copy edit

Computer and print:
❑ Animation layback ❑ Assemble materials ❑ Integrate graphics
❑ Print blueline proofs ❑ Keystroke

Document and Sign-off:
❑ Learner/SMEs/Management Feedback ❑ Incorporated revisions

Implementation:
❑ Distribution ❑ Curriculum integration
❑ Reporting procedures ❑ Publish course descriptions
❑ Certification parameters ❑ Conduct T3

Document:	Maintain and upgrade:		
❑ Recommended revisions	❑ Equipment	❑ Courseware	❑ Learner environment

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TDY 93/94

RESEARCH SUMMARY: LEARNING STYLES AND THE EFFECTIVENESS OF INTERACTIVE VIDEO

Source: "Relationship of Learning Style to the Effectiveness and Acceptance of Interactive Video Instruction," by Ronald E. Larsen, *Journal of Computer-Based Instruction*, Winter 1992, pp. 17-21

To identify how best to individualize interactive video instruction (IVI), the authors studied the relationships among (1) learning style preference, as measured by Kolb's *Learning Style Inventory*, (2) effectiveness (learning gain score), and (3) acceptance (students' satisfaction rating). The research, which was conducted at NCR Corporation, involved 112 participants, with the smallest learning group (Diverger) numbering 18. Analysis of pre-test, post-test and gain scores and satisfaction scores for each of the 4 learning styles failed to detect any significant relationship. "The flexibility of IVI to adapt to individual student needs and preferences," concludes the author, "is, perhaps, the strongest argument for the use of IVI and the most plausible explanation for the lack in this study of any statistically significant evidence for a differential effect of learning style on the effectiveness of IVI." (AN84)

CERTIFIABLY EFFECTIVE

by Gay Herron

Why Certify?

Certification is a way to recognize and reward people who meet designated standards of performance. It is designed to upgrade the professional skills, culture, and image of performers while improving quality and enhancing sales of a client's products and services.

Certifying employees as the last step in a training program adds value to the training experience and communicates that the employee not only completed the training, but also demonstrated proficiency in job-related skills. When a company's employees are "certified," the message conveyed is that those employees possess the skills required to do the job right. Certification also communicates that employees possess a common set of standards for job performance. This consistency is especially advantageous to large organizations that provide service from many locations.

Many organizations have added certification to their training programs for workers of all types, from auto mechanics to marketing and customer-service personnel. These organizations are taking the extra step in their training programs because they have found that certification can build customer trust, increase professional pride, and improve performance.

Certification also provides a framework for long-range performance improvement strategies; standards can be increased over time as overall performance improves. In addition, continuing education programs for certified employees are easier to design and implement because the trainer can assume a certain level of proficiency common to all participants.

Advantages of Certifying Through Computer-Based Training (CBT)

Adding certification to a CBT or IVD training program is a natural extension of the technology's application. Certifying on-line makes it possible not only to test a student's ability to answer questions about a topic, but also to simulate actual computer skills.

Certifying through CBT allows on-site, on-demand validation of an employee's knowledge and skills in a nonthreatening environment. Instead of an intimidating classroom test atmosphere, students demonstrate abilities in their own work environments, at their own pace.

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Gay Herron is with Maritz Performance Improvement Training Inc., St. Louis, MO.
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Certification through CBT also ensures that all students who are tested have identical preparation experiences, as opposed to students who have been taught by various stand-up trainers in various environments. However, certification through CBT applies only if mastery of knowledge and skills can be demonstrated through simulation.

A Systems Approach to Certification

Whether a client wishes to certify employees in CBT/IVD or via more traditional methods, Maritz approaches the process through the following ordered sequence:

1. Assess required knowledge and skills.
2. Create training specifically targeted at those needs.
3. Create a definition of competency.
4. Validate testing.
5. Determine cut-off score.
6. Certify those who successfully complete the training process.
7. Validate implementation of the training package.
8. Deliver tangible honor and recognition.

Case Study: How IBM Certifies Its Dealer Employees

IBM is currently at an important crossroads. It is changing the way it provides service and training to dealers and is shifting the dealer emphasis to customer service, which requires comprehensive product knowledge for those providing that service. New products and technologies currently being introduced to the marketplace will shape the direction IBM takes over the next decade. Technical support at the dealer level will play an important role in the success of these initiatives.

At the same time, IBM wishes to reduce costs and time associated with training dealer technical personnel. Traveling to classes in other cities results in considerable expense and downtime for the dealer's technical staff and limits the number of employees who are exposed to training. Delivering the training program directly to dealers via multimedia has become IBM's strategy.

As a first step in its new dealer education initiative, IBM asked Maritz to design and produce two IVD courses for IBM dealer technical service personnel. The subject matter was networking principles for DOS and OS/2, including theories (such as choosing the right equipment for a network) and computer procedures (such as changing passwords and troubleshooting). The course was to be delivered on IBM's multimedia platform and stored on CD-ROM. Because many computer skills taught in the two courses could be simulated on-line, these courses offered a perfect opportunity for certification. Courses could validate employees' skills not just by asking questions about topics, but also by validating actual keystrokes required to perform networking functions.

Maritz followed its eight-step approach to certification:

1. Assess required knowledge and skills: Maritz performed a detailed skills inventory and audience analysis before the course was designed. Through extensive telephone surveys, Maritz's instructional designers determined the amount of training time available to participants, how they liked to learn (e.g., through simulations, lectures, etc.), and whether they had experience using CBT and more. Focus groups were held to determine skill requirements for job and current levels of product knowledge.
2. Create training specifically targeted at those needs: Maritz's instructional designers and writers worked with IBM subject matter experts to produce training that met dealer and customer needs. In addition to determining content, designers also planned instructional strategies customized to the audience's needs. For example, it was determined that three programmed paths should be available, including a certification path in which students would view all course material, a general information path to allow sales employees to see only feature-related information, and a browse path.

   At this stage, strategies such as game techniques, self-assessment and practice opportunities, and feedback approaches were also planned. After the program was designed, focus groups of dealer technical personnel reviewed the design and creative approach to determine appropriateness of the material. Product developers also reviewed the design and scripts for accuracy and content.
3. Create a definition of competency: Training objectives were stated in behavioral terms to ensure that students could complete required computer tasks. These specific, behavioral objectives supported an overall course goal, which stated that after completing this course, students would be able to install and configure IBM DOS networking products and OS/2 software in customer environments.
4. Validate testing: IBM subject matter experts reviewed the testing, and members of the target audience piloted the course. IBM technical personnel took the tests to validate that (1) they could demonstrate mastery of objectives for each module after completing the course material, (2) mechanics of the IVD process (programming branches and logic) were error free, and (3) course navigational instructions were effective and user friendly.

   To protect the integrity of the testing, randomized pools of questions were created (grouped by objectives). As a result, all students were asked questions that tested the same objectives, but the

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course would be unlikely to present the same sequence of questions to any two students in a dealership.

5. Determine cut-off score: After the initial pilot testing, IBM defined acceptable performance as 85% correct on the certification tests. It was also decided that students who could master a pre-test at an 85% competency level would not be required to view all course content. Instead, they were given an option to review the material if they wish.
6. Certify those who complete the training process successfully: Maritz wrote a student diskette management program that enabled the system to transfer scores and data to a student diskette. A dealer course kit includes all materials necessary to achieve on-site certification, such as labels and diskettes. Dealer personnel send diskettes to a central IBM education office for scoring.
7. Validate implementation of the training package: Maritz observed as dealer personnel assembled and launched the training package to ensure that it worked in the actual training environment.
8. Deliver tangible honor and recognition: After ensuring that the employee passed, a certificate and plaque were mailed.

Considerations

On-line certification presents additional challenges to the designer; security is probably highest on the list. Maritz programmers worked with IBM management to develop measures to ensure the integrity of testing and scoring processes. Other considerations were the cost and complexity of tracking skills transference to actual job performance and challenges presented if designers wished to use random testing strategies (using a pool of questions).

Results

IBM implemented the two courses described in this article in hundreds of dealerships nationwide. Certification rates for dealerships submitting diskettes are high. Maritz is continuing to explore on-line certification opportunities in other IBM training applications.

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ST-JUSTIFYING CBT

rce: "Computer-Based Training Helps Firms Budgets," by Jennifer L. Janson, *PC Week*, uary 27, 1992, pp. 90-93

his article illustrates the advantages of computer-d training vis-a-vis classroom instruction. The au- cites the opinions of both industry observers and rate users, and she presents a comparison of CBT classroom training costs. She notes in particular the ssful experience with CBT of Atmos Energy Corp llas, TX. There are two accompanying articles that airly detailed pictures of (1) the U.S. Coast Guard's atic savings when it turned to a Macintosh-based simulation program for helicopter training, and (2) ccess Federal Express has had in using interactive for the testing and training it requires of its cus- -contact personnel. (AN85)

RNING FROM EXPERIENCE WITH PROJECTS

ce: "The Postmortem and the Junkyard," by Mosher, *CBT Directions*, May-June 1992, 2-34

o we ever get the feeling our training department reinventing the wheel, and losing the wheels it's already invented?" the author asks. He discusses 2 important ways of preserving past wisdom in the development of computer-based training:

- An afternoon-long postmortem should be conducted after each project in order share the decisions made in the course of the project and lessons learned from it. This wisdom, as well as records of the project's history and software origins, should also be preserved as part of a postmortem document saved in the department's archives along with diskettes containing the final program. Don't edit and sanitize this document to the point of inconsequentiality, the author cautions, or it will not be useful.
- A departmental junkyard is important for saving records of a program's wrong turns, messy parts, mistakes, unused graphics and screen dumps, etc.

"Every CBT department should value its own mistakes highly," he concludes. "Write them up as part of the process, and save their broken parts, for both their educational value and their possible use of those tackling similar problems to come." (AN86)

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B. DESIGN OF COMPUTER-BASED TRAINING

NAVIGATING THE SELECTION PROCESS

by Steven Okonski

First, make sure you need an authoring system. This article will not help you determine if Computer Delivered Media will reduce hair loss, cure the common cold, or increase your status with the neighbors. It is assumed you have already studied and concluded that you can reduce cost, improve effectiveness, increase sales, or somehow improve the world with CBT.

Just be sure what you need is an authoring system. An authoring system is a high-level tool for creating Computer-Delivered Media. If your goal is to produce a book, you would be much better off using word processing or desktop publishing software. If you are actually building a complex database application, you might need the power of a general-purpose programming language such as C, Basic, or Pascal.

Time out! What is Computer-Delivered Media (CDM)? In ancient computer history (i.e., a few years ago), the term "authoring system" referred almost exclusively to software used to create CBT courseware. More recently, "authoring system" has expanded to cover systems that produce noninteractive presentations, such as those you might watch passively at a marketing seminar (*yawn*, oh, pardon me).

The term "Computer-Delivered Media" encompasses both CBT courseware and noninteractive presentations. Virtually all authoring systems fall clearly into one of the two categories. When you determine whether you want to produce interactive courseware or a slideshow, you can split the river of authoring systems (and your work!) in half, and concentrate on choosing from just one category.

Since you are reading *CBT Directions* this article assumes you want to build interactive CBT courseware, and so it concentrates on that half.

Define the goals of your CBT project. What are the goals of your CBT project? Are you training people to use software? If so, you need an authoring system with strong application simulation abilities; screen capturing will be important, too. Are you creating technical CBT? You will probably need good question and answer handling in an authoring system, and perhaps strong recordkeeping. Are you preparing an interactive product sales demo? You will want attractive graphics and fonts for your screens. Are you preparing on-line help or a performance support system? Look for a memory-resident system with hypertext features.

Who is your audience? Is your audience non-computer literate? You need an authoring system that can build on-screen prompts, and global help. If they are computer-literate, lots of "Are you sure?" type messages in the CBT will be irritating. Experienced computer users also like to write comments about the CBT (the authoring system should support this).

Will you be producing courseware in multiple languages? If so, the authoring system should allow you to employ different character sets and fonts. Also, it must allow you to modify all its internal lesson run-time messages (log-on screens, error descriptions, etc.) so you can translate them as needed.

Check the hardware and software. CBT with fancy graphics, animation, and multimedia is fine, except when your audience doesn't have the hardware to view it! The more high-level features you add, the smaller your potential audience becomes. Will your CBT be used at particular computer stations in the organization? If so, it is relatively easy to ensure that the proper hardware is available. Once you send that CBT out the door though, all bets are off.

The authoring system you choose should be able to report information about the computer hardware at lesson run-time so that you can present polite messages to the students: "We're sorry, you need an XYZ brand sound board in your computer in order to use this program. For information, please contact..." That's much better than "Error 172-D" or worse: a blank screen and a hung computer. Guess whose telephone will ring.

Will your audience own a variety of types of computers, say MS-DOS machines and Macintoshes? If so, try to find one authoring system that can produce courseware that runs on both. Otherwise, you'll be re-authoring the courseware from scratch for the other computer, and learning a different authoring system.

What about Microsoft Windows? Most DOS-based authoring systems (and the courseware they produce) can run within Windows, but they won't have the Windows look and feel. If this is important to you, you need a Windows-specific system. Note that Windows has some hefty computer hardware requirements, so be sure your developers and students have the necessary hardware to make your courseware run (rather than crawl).

CBT Directions, September/October 1992, pp. 25-29. Reprinted by permission.
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Who are your developers? Who in your organization will be creating the CBT? Instructional designers with little computer experience will be intimidated by a programming language. Programmer types will find a menu-driven authoring system as repulsive as a necktie. But, many authoring systems are either menu driven or are programming languages. So, which do you choose?

Fortunately, several authoring systems have evolved a multi-level approach: menus and templates for the novice computer user, coupled with a programming language for the experienced authors. You need to check where the menus leave off and the programming begins; the best way to find out is by trying the authoring system itself.

Check the bottom line. The issues above are some of the most significant ones, but another important issue is cost. Not the cost of the authoring system (though this is a factor we'll look at in a moment), but the cost of the CBT development project. Your choice of authoring system has a significant impact on the development cost of your project. Why? Because the wrong tool for the job hurts productivity.

For example, let's say you are starting a two person-year CBT project. At current salary levels and typical markup, your organization can expect to spend approximately $200,000 on such a project. If you choose the wrong system, and it hurts productivity by 20%, labor costs go up by $40,000!

This is why investing time up front to choose the best authoring system for your project is so important. It is also why the price of the authoring system (for anything but the smallest of CBT projects) should be a very minor factor. If Authoring System A costs $4,000 and Authoring System B costs $6,000, but B increases productivity by just 5% ($10,000 on a 2-year project) you will actually be saving $8,000 by choosing the more expensive system.

Cast your net. At this point, you should have a general idea of the type of authoring system you need, and some of its qualities. Each issue of *CBT Directions* has several ads from authoring system vendors. The ads look wonderful, but rarely do they tell you much about the system. Weingarten Publications sells a "*Guide to CBT Authoring Systems*" that provides more facts and helps you quickly compare systems; call them to obtain a copy.

You should telephone or write to several vendors. In one or two sentences, describe your CBT project. "I m creating application simulation courseware that's to run on MS-DOS computers." Next, use a few quick questions to help you determine the categories in which the authoring system falls.

Ask: "Describe your system's response-judging capability." A true CBT authoring system will accept fill in-the-blank type input (and judge it for correctness via exact match), wild card (spelling allowance), keyword search, and perhaps even phonetic match. Most will also handle student responses with uppercase letters, and provide an anticipated incorrect feature. They will also have a student bookmark feature. Slideshow type authoring systems will not do most of these things.

Ask: "What is the authoring system's user interface like?" A menu-driven authoring system will have (surprise!) menus (perhaps of the mouse activated pull-down species), prompts, and templates. A programming language will have an editor in which programming commands are typed. Multilevel authoring systems will have both.

Don't bother asking "How much time does it take to create a one-hour lesson?" because the answer depends more on the design requirements of your CBT (especially the amount of video, graphics, and interaction) than on the authoring system. Besides, if one vendor tells you "50 hours," and another tells you "200 hours," is the 50-hour system better? Perhaps it takes only 50 hours because you can't do very much with that authoring system!

If the system sounds like it fits into the category you want, ask for a brochure and demo disk (most vendors will send you one at no charge). You should be able to catch anywhere from two to ten interesting fish from the river of authoring systems.

Run the demo disks. A few weeks pass, and now you have a pile of brochures and demo disks. Most demo disks are like junk food: they look and taste great, but they're full of empty calories. Here are some things the vendors don't want you to know about demo disks.

Many demo disks, particularly for multi-level authoring systems, were created primarily with the authoring language, not the menus and templates. The menus and templates may not have the flexibility to do those neato special effects on the demo. (Of course, if you really want a programming language, this is not an issue.) A few demo disks were not created with any part of the authoring system, but were instead programmed in another language. That doesn't say much about the authoring system. It is difficult to know exactly how the demo was created.

Most demo disks won't tell you how long it took to create the demo. If a 10-minute demo looks stunning, but two artists spent a year creating it, you'll need to decide if you can afford a similar investment on your CBT project. How can you determine how long it took to create that fantastic screen? Corner the vendor at a trade show's exhibit hall (like the CBT Conference) and ask them to recreate the screen from scratch as you watch. (Don't expect to make friends if you do this.)

Beware the demo disk that begs to be installed on your computer's hard disk. Is the courseware the authoring system produces so large that it can't fit on a floppy diskette? Does it perform poorly (slowly) from a floppy? If so, your CBT will be hampered by the same factors. To get an idea of the size (disk space) of the courseware, measure the amount of time you need to view the entire demo.

Obtain evaluation packages. Weed out the systems that don't appeal to you. Call some of the vendors again and ask specific questions in your project's critical areas: "How much memory does the screen capture utility occupy? Can I modify screens that I capture?" "How

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does the student bookmark work?" "Can I import text, graphics, and fonts from other sources?" "How might I create this question sequence?" "What multimedia devices does it work with?"

You might ask the vendor for references. Try to get references of people who have created CBT that is similar to your project. The value of references is marginal because the vendors will only tell you about clients who are pleased with their authoring system (gee, I wonder why).

You should be able to narrow your range down to just two or three systems. Call these vendors and ask for evaluation packages. An evaluation package lets you play with the actual authoring system. Typically, these packages have some kind of limit that prevents you from developing a complete, deliverable CBT course. If there is a fee for the evaluation package, ask to have the fee applied to the cost of the system if you ultimately choose it.

Test the evaluation packages. This is perhaps the most critical step. You can get past the hype and work with the actual system. Schedule at least several days to try each system. Some people spend a few weeks with each; it is time well spent.

While you are waiting for the evaluation packages to arrive, prepare a tiny lesson script on paper. This lesson should be just long enough to include all the elements critical to your CBT project, such as graphics, interaction, answer judging, programming, etc. You might also make a list of important system attributes, and be ready to evaluate each package on your criteria.

When an evaluation package arrives, don't jump right in and begin creating your sample lesson. First, take the time necessary to complete the tutorial that accompanies most packages. Only then should you create your sample lesson.

Measure how much time you spend on your sample lesson. Is the system easy to use? Can it do the types of things you need? Does it operate correctly and efficiently on your computer hardware? Try to modify some portion of the lesson to learn what that takes.

Evaluation package tips. Certain authoring system features are important regardless of the type of CBT you are creating. Can you test the lesson without exiting the authoring system? During actual development, you'll need to re-edit the lesson hundreds of times. The system must make such editing very quick and easy. While testing the lesson, if you can invoke the editor, make a change, then immediately resume testing where you left off, your productivity will be much higher than if you cannot.

Be sure to call for technical support. These are the folks you will need to deal with when problems arise later on (yes, I know it's hard to believe there will be problems where computers are involved). Look for prompt, courteous, knowledgeable support. If you don't get it now, you certainly won't after you make the purchase.

Watch out for mutually exclusive authoring system features. Some vendors might tell you their system can do wonderful animation and student interaction, but they will forget to mention that you can't do both on the same screen. You can check with the evaluation package.

Custom character sets or fonts and text mode are often mutually exclusive features in MS-DOS authoring systems. Most systems will force you to use a graphics mode if you want anything but the normal text font. This can be a problem if you are simulating the text screens of another application, or producing lessons in a foreign language. Graphics mode screens take more effort to create, run slower, make your lesson larger, and use color differently than text screens.

Be sure to verify the size of (disk space occupied by) your sample lesson. All else being equal, the smaller, the better. Smaller lessons are easier to distribute and install.

Assess the vendor's market position and policies. How stable is the authoring system vendor (how long have they been in business)? When was version 1 introduced? Are future versions being developed? Is there a user group? How often are newsletters issued?

Are there hidden costs? What items are not included with the standard authoring system? Will you owe the vendor royalties if you sell your CBT? Is there a courseware distribution license fee? Is the fee per course, per author, per organization? Is there an annual maintenance fee? If you don't pay the fee, can you continue to use the authoring system?

Make the decision. At this point, you should have enough facts to make an informed decision. Return the evaluation packages to the vendors. If the vendors are willing to listen, give them feedback (just like good CBT!) on why you did or did not choose their system.

By following these steps as you wade across the authoring system river, you should be able to make a good catch without getting soaked.

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TDY 93/94 RESEARCH SUMMARY: STUDY OF AUTHORING SYSTEMS

Source: "Authoring Systems Reassessed," by Craig Locatis, *et al.*, *Educational Technology Research & Development*, Vol. 40, No. 2 (1992), pp. 77-82

The National Library of Medicine has recently updated its 1985 study of authoring system technology to emphasize the newest trends in authoring tool characteristics, in vendor approaches to the marketplace, and in evaluation methods. The new study also questions assumptions underlying the technology's development and use. The authors describe some of the changes in authoring systems in the last several years, and they highlight the widening market for authoring systems. Next, they discuss 3 assessment methods designed to reduce subjectivity in selecting authoring systems: (1) benchmarks, (2) lesson elements, and (3) task inventories. While there is evidence that authoring systems can improve productivity, the authors concede that gains largely depend on the skill of the user. (AN87)

TDY 93/94 IN BRIEF

AUTHORING SYSTEM SELECTION MODEL

Source: "Evaluating Computer-Based Authoring Systems: How to Ensure Success," by Mark S. MacDonald, *Journal of Interactive Instruction Development*, Spring 1992, pp. 15-24

To implement a cost-effective training program using CBT technologies, it is critical to evaluate the medium up-front, says the author, long before development beings. He describes a model for evaluating authoring systems for applicability to specific training programs. The model includes 3 phases: (a) initial selection, (b) benchmark testing, and (c) cost and training effectiveness analysis. He details each step of the process:

1. Determine training requirements.
2. Survey the industry to identify authoring system candidates.
3. Gather information on each authoring system that appears to meet your needs.
4. Evaluate each authoring system against your requirements.
5. Perform an initial selection of 5 to 7 systems for further analysis.
6. Down-select to 2 or 3 authoring systems for operational testing.
7. Perform "benchmark" testing on each final candidate authoring system.
8. Combine all results into a cost and training effectiveness analysis.
9. Recommend one authoring system.

The article concludes with lessons learned in past evaluations. (AN88)

DATABASE OF AUTHORING SYSTEMS

Source: "Developing a Database of Authoring System Software," by Raulie Lo, *et al.*, *Educational Technology Research & Development*, Vol. 40, No. 2 (1992), pp. 69-76

This article examines the development of *AuthorBase*, a working prototype database of authoring system software. The authors explain the prototyping techniques they used in developing *AuthorBase*, and they describe its features, particularly its searchable data and memo fields which hold records of specific system information that can be displayed and printed. To illustrate *AuthorBase's* capabilities, the article provides sample records for a "classic" authoring system compared to a hypermedia authoring system. The authors also address several issues: (1) defining an authoring system, (2) deciding what software information and features were important enough to be included in the records, (3) describing the systems appropriately and consistently, (4) developing a comprehensive and user-friendly search procedure, (5) ensuring record integrity, and (6) maintaining and documenting records. *AuthorBase* is currently being used at the National Library of Medicine's Learning Center for Interactive Technology and in workshops that the Library intends to offer. The Library has recently made *AuthorBase* available on-line. (AN89)

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STRENGTHS OF 52 AUTHORING SYSTEMS

Source: "Comparing Authoring Systems: Where Do You Start?" *CBT Directions*, May-June 1992, pp. 15-29

"There is no authoring system that is 'the best,'" says the editor, "only systems that are more or less appropriate to your situation." To help readers determine which authoring systems will best fit their needs, the editor asked 52 vendors to describe the "three greatest strengths" of their systems. The editor has included the vendors' statements with only minimal editing, and he encourages readers to contact the vendors for more information through the address supplied. (AN90)

PROFILES OF AUTHORING SYSTEM USERS

Source: "Authoring Systems in Action by Mark Fritz," *CBT Directions*, September-October 1992, pp. 11-24

This article consists of snapshots of users of 12 different authoring tools. A typical snapshot gives a profile of the CBT instructional designer, explains the designer's application and client, and outlines the ways in which a particular authoring system meets the user's need. The authoring systems covered are:

- *AmigaVision*, from Commodore Business Machines, Inc. This snapshot also mentions *CanDo* and *InfoChannel* for the Amiga.
- *Authorware Professional for Windows*, from Macromedia, Inc.
- *IconAuthor* by AimTech Corp., which is compared with *Authorware*.
- OS/2 *Information Presentation Facility* from IBM.
- *Multimedia Viewer* from Microsoft Corp. It is compared to *Information Presentation Facility* and *IconAuthor*.
- *Phoenix* and *Preference* from Goal Systems International, Inc.
- *Quatrain* from Softwords. It is compared to *KSS: Author*.
- *Quest* by Allen Communication, Inc. It is compared to *TenCORE*.
- *Summit* by Conceptual Systems, which is compared to *TenCORE* and *Adroit*.
- *TenCORE* by Computer Teaching Corp. is looked at alongside *Authority*.
- *TIE (Training Icon Environment)* from Global Information Systems Technology, Inc. is compared to *Accord*, *Quest*, and *TenCORE*.

Following this article is another article that consists of a list of 13 authoring system users with their addresses and phone numbers. These are people who have been nominated by their respective vendors and who have agreed to answer questions from interested *CBT Directions* readers. (AN91)

MULTIMEDIA AUTHORING SOFTWARE "SHOOT-OUT"

Source: "Shoot-Out: Aimtech's IconAuthor Squeaks By," by Peter Coffee, *PC Week*, June 29, 1992, pp. 101-112

When Fox Valley Technical College of Appleton, WI decided to purchase new interactive multimedia authoring software, *PC Week* Labs asked them to host a "Shoot-Out" between 6 contenders, with demonstrations conducted by vendor representatives. A team of 11 corporate buyer/developer judges evaluated the 6 packages on the basis of 51 capabilities and came up with 2 clear winners—both *Windows*-based products. The overall weighted scores for the various authoring products were:

- AimTech Corp., *IconAuthor 4.02* for Windows, $4,995 (6.0)
- Asymetrix Corp., *Multimedia ToolBook 1.5* for Windows, $695 (5.8)
- TeleRobotics International Inc., *Course Builder 4.0.9* for the Macintosh, $995/$1,495 (5.0)
- Ntergaid Inc., *HyperWriter for Training 3.03* for DOS, $995 (4.8)
- Warren-Forthought Inc., *Linx Test Factory 1.0* for the Macintosh, $939 (4.1)
- V-Graph Inc., *Interactive VirtualVideo 3.5* for DOS, $2,500 (3.7)

While *IconAuthor* earned the highest scores in 28 of the 51 criteria judged, the high cost of user hardware, high cost of the authoring software itself, and network integration issue were considered drawbacks; *Multimedia ToolBook* came in with a strong performance overall. *HyperWriter for Training* was flagged as most economical in terms of hardware and software. A series of several articles and sidebars discuss the pros and cons of each authoring package, how the scoring format was developed, and Fox Valley Technical College's needs for authoring software. (AN92)

COMPARISON OF WINDOWS AUTHORING SYSTEMS

Source: "Author! Author!" by Alfred Poor, *PC Magazine*, March 31, 1992, pp. 223-249

Multimedia authoring systems have matured considerably since they were last reviewed by *PC Magazine* in 1990, says the author. First, he describes the increased multimedia capabilities of the add-on *Multimedia Ext*

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ions to Microsoft *Windows 3.0* (largely incorporated in *Windows 3.1*): *Windows* now makes authoring software evice-independent and provides a platform to combine nimation, video, sound, and MIDI outputs. The author sted 3 *Windows*-based authoring software nd evaluated them for their suitability in developing ultimedia presentations, CBT, and kiosk programs. ackages evaluated were:

- *Authorware Professional for Windows 1.0* from Authorware Inc. ($8,000)
- *IconAuthor* from AimTech Corp. ($4,995)
- *Multimedia ToolBook* from Asymetrix Corp. ($695)

After a detailed review of each package, the author ncludes: "Although *IconAuthor* received identical uitability-to-task' ratings in this review, *Authorware* ts you to the same place with less effort. And although *olBook* costs a fraction of the price, it requires more ogramming expertise" and is slower. "If you are lling to devote the time and money to use one of these ckages, *Authorware* is the winner." The article also cludes a sidebar on the *Microsoft Multimedia Development Kit* for C programmers and a brief review of *Guide*) from OWL International Inc. ($495), specifically signed for creating hypertext productions. (AN93)

ASICS OF CBT DEVELOPMENT

ource: "CBT From Scratch: Building a Computer-Based Training Department," by Mary B. istin, *Tech Trends*, January 1992, pp. 9-11

In this article, the author presents a step-by-step approach to developing CBT from scratch. Before training w staff members or fine-tuning the skills of experienced members, she says, you must be sure you know at the job entails. Read the contract that defines the posed CBT to determine: (1) whether it will run in a cintosh or DOS environment, (2) whether the client's ipment imposes limitations or special considerations, what kind of disk operating system or program will ve your CBT, (4) how many hours of CBT are specil, and (5) whether the subject matter requires specific sentation strategies. Then, she says, collect design technology information through subject-matter exts, university contacts, CBT journals, and professional CBT organizations, creating a CBT library as you

Next, you can set the stage for training by: (1) ising the staff about what is happening in the field, (2) rming them of the goals of CBT and where they fit the development process, (3) acquainting the staff the materials, hardware, and software they will be g, and (4) modeling training tasks for the staff. You uld help build staff skills by allowing them to explore development process and by asking for their contribus to the training program. Other skill building activities include: (1) reviewing members' initial development efforts and production activities as a group, (2) allowing staff 2-3 weeks to practice and refine skills in their specialty, (3) devising a needs assessment profile or checklist for each staff member, to help outline the areas of his or her performance which need improvement, and (4) creating assignments that address common problems. With this background laid, the CBT process can then be refined by creating documentation standards, developing instructional strategies and establishing a cooperative rather than a competitive atmosphere. (AN94)

A MODEL FOR DESIGNING INTERACTIVE VIDEO

Source: "A Seven-Stage Quality Control Model for Interactive Videodisc Projects," by Brenda C. Litchfield and John V. Dempsey, *Journal of Educational Technology Systems*, Vol. 20, No. 2 (1992), pp. 129-141

The process of interactive video design and development requires different skills than those used in the design of print or computer-based instruction, say the authors. They present a 7-stage quality control model that can be used with relatively large projects. After examining the assumptions upon which the model is based, the authors describe each stage and the processes involved in it:

1. **Planning/Research Review:** disc topics, goals, objectives, and style sheet reviews.
2. **Design Review:** flowcharts/lesson diagrams; context treatment; instructional approaches/strategies; activities, simulations and games (draft); instructional design; subject-matter experts; and supporting information.
3. **Development Review:** drafts and final scripts; learner and instructor manuals (draft); activities, simulations and games (final); slide/footage; storyboards; subject-matter expert review; and instructional design review.
4. **Production Review:** screen graphics and off-line editing.
5. **Programming Review:** verification of computer program; proofreading; subject-matter expert review; lead programmer review; instructional design review; and learner/instructor manual review (final).
6. **Recheck and Client Review:** production assistant review; learner/instructor manuals revision; subject-matter expert recheck; instructional design recheck; and client review.
7. **Final Review:** signoffs on (a) producer/director review; (b) programmer review; (c) subject-matter expert review; (d) instructional design review; (e) senior instructional designer review; and (f) client review. (AN95)

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SCREEN DESIGN

Source: "Screen Design for Computer-Based Training and Interactive Video: Practical Suggestions and Overall Guidelines," by William D. Milheim and Carol Lavix, *Performance & Instruction*, May-June 1992, pp. 13-21

In this article, the authors examine the best ways to design computer-based instruction in terms of effective screens and appropriate student-computer interaction. Effective screens, they say, should: (1) promote deep processing of important information, (2) aid in organizing lesson content, (3) allow reasonable learner-control options, (4) promote interaction between learner and lesson content, and, (5) facilitate lesson navigation. Three fundamental principles for computer-assisted instruction systems are also discussed: (1) including only relevant detail that aids in the recognition of essential information, (2) not necessarily filling the screen with information simply because it is possible, and (3) using as many screens as needed, since cost is not based on the number of frames in a lesson. Next, the authors discuss the importance of properly locating the various components on each screen, suggesting that certain parts of the screen should be reserved for specific tasks. They also cover the appropriate use of text, graphics, and color, as well as student control of the program. (AN96)

DESIGNING CBT FOR LOW LITERACY LEVELS

Source: "Application Report: Instructional Design of a Computer-Assisted Work-Related Literacy Program," by Ginger Baker, *Journal of Computer-Based Instruction*, Winter 1992, pp. 33-36

With federal legislation requiring all commercial drivers to pass an in-depth written examination, the Institute for the Study of Adult Literacy is developing a CBT course entitled *R.O.A.D.* to help operators who do not possess the basic skills required to study for and pass the exam. The author outlines some of the methods used in developing the program, including rewriting the exam study manual to a lower difficulty level, using pictures to reinforce some of the information in the text, providing test-taking practice, and allowing for advanced reading practice. The designers adopted the following readability guidelines, which may be transferable to other literacy CBT applications:

- Use one or 2 key ideas per screen.
- Don't just give directions; provide reasons or consequences for following a given procedure.
- Control the amount of text to average 3 lines per screen.
- Use active verbs.
- Present independent clauses before dependent clauses.
- Don't embed one clause inside another; instead, present each clause as a complete unit.
- Add words that signal relationships between ideas, such as "because," and "either ... or." (AN97)

USE OF COLOR IN CBT

Source: "The Use of Color to Maximize Instructional Effectiveness," by Jane Conway and Jane Roderick, *Journal of Interactive Instruction Development*, Winter 1992, pp. 7-13

How does one go about planning the use of color in CBT applications? The authors outline a basic approach that consists of 4 steps: (1) determining functional applications of the display, (2) identifying and assigning unique colors to specific operational and functional areas, (3) identifying which colors will be replicated across display formats, and (4) developing a color scheme for assigning colors consistent with the perceptual and cognitive capabilities of the user. The first part of the article summarizes the use of color in visual displays. The second part presents guidelines for the use of color based on physiological, perceptual, and cognitive characteristics of the user, as determined by various visual research studies. For example, the authors recommend avoiding red and green in the periphery, as the retinal periphery is relatively insensitive to red and green. Finally, the authors discuss general display design requirements, such as formats, text and symbol size, and background color. Two tables summarize the best (and worst) color combinations as determined by research. (AN98)

SCREEN CAPTURE TOOL FOR DEVELOPING CBT

Source: "CBT Authoring with IADAT," by Wayne Glass, *CBT Directions*, November-December 1992, pp. 20-24

Instructional designers continuously search for ways to make CBT development easier, more efficient, and more cost-effective. This author reports on how his company, Amdahl Corporation of Sunnyvale, CA, realized these goals with the help of the *Integrated Applications Digital and Audio Trainer (IADAT)*, a sophisticated form of interactive videotape recorder that connects directly with a terminal or PC and continuously captures what is on the screen without interfering with the application that is running. IADAT offers a "virtual subject-matter expert," including the trainer's voice and that of the subject-matter expert (SME) who is explaining the process. This technology can shorten the CBT development cycle, but it is important to prepare the SME to work with IADAT, and the author offers some advice in this area: (1) explain IADAT's uses and limitations before recording, (2) emphasize the need to verbalize which

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functional keys are being pressed every time, (3) be sure the microphone and volume levels are set correctly, (4) emphasize the need to present information at a deliberate pace, and (5) explain how the SME's explanations, directions, and comments will be made into "pop-up" or information text windows. Role playing in the IADAT process can be effective, with the instructional designer playing the role of the student, listening to, and questioning the SME as a means of clarifying problem areas. Amdahl's 2-pass strategy for building IADAT into CBT is also discussed. Sidebars list the advantages and disadvantages of IADAT and present a flow chart of the process of creating an application with IADAT. (AN99)

C. INTERACTIVE VIDEO

CBT OR IVD?—THAT'S THE QUESTION

by Jorge Franchi

Educators and trainers have powerful new technology tools at their disposal—computer-based instructional systems and interactive videodisc. Before selecting one of these systems for instructional purposes, critical questions regarding their potential must be answered. What are the hardware and software requirements? Is the allocation of time, expertise, and money involved in setting up one of these systems worth the investment? Which system will best serve the needs of the learner?

What Research Tells Us About Computer-Based Training

When researchers in the early 1980's compared CBT (or CAI) to traditional forms of instruction, the most common results showed no significant difference. However, more recent studies reveal that CAI lessons can be more effective than conventional training on the same topics, and that recently developed CAI lessons are more effective than earlier ones.

The following generalizations appear to be substantiated by a wide variety of research:

- CBT may be an effective means of achieving educational objectives, both as the principle means of instruction and as a supplement to other forms of instruction;
- When CBT (or CAI) is compared to media that do not account for individual differences, it is likely that CBT (I) will produce more learning in a given amount of time, or (2) will produce a given amount of learning in a shorter period of time;
- Retention following CBT (and CAI) lessons is at least as good as retention following more traditional methods of instruction; and
- Students favor well-designed CAI programs but reject poor programs.

CBT has significant advantages when compared to conventional educational media These include:

Increased interaction. Interaction refers to the active exchange of information between the computer and the student.

Individualization. The one-to-one nature of CBT makes it possible to monitor student understanding constantly and to respond based on the needs of each individualized student.

Administrative Strengths and Cost Effectiveness. Because CBT lessons may be used without the participation of a teacher, they can be employed during evenings and weekends in locations where instructors are normally unavailable. CBT lessons are also inexpensive to reproduce and distribute. The process may be as simple as copying a program to a diskette, providing protective packaging, and sending the diskette through the mail. The total cost may be as little as three dollars.

Motivation. Students cite the low threat posed by learning from a machine as contrasted with a more critical human instructor.

Immediate Feedback. The immediacy of the feedback provided by CBT is difficult if not impossible to replicate in other media. Most answers can be evaluated instantaneously. The computer's ability to evaluate and respond surpasses by far the human instructor's ability to do so. The capability is a key factor in CAI's efficiency and effectiveness.

Ease of Record Keeping. A CBT (or CAI) lesson may be programmed to automate any or all aspects of record keeping.

Lesson Integrity. With CBT (or CAI), the designer may be confident that topics to be covered are covered and that irrelevant information does not undermine the lesson.

Lesson Control. An alternative that is attractive to both students and CBT (or CAI) designers grants the student authority to make significant decisions during the instructional process to produce a more customized, personal lesson.

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Advantages of CBT

Less expensive to produce and to use
Could be used on any microcomputer
Better portability
Requires less time to develop

Disadvantages of CBT

Difficulty in reviewing topics
Heavy reliance on reading and visual skills
Unrealistic graphics
Possibility of limiting incidental learning
Perception only of programmed input

Advantages of IVD

Ability to provide realistic images
Ability to provide realistic motion
Ability to provide quality audio
Ability to provide the same level of interaction present in CAI to video and audio
Ability to use computer-generated highlighting on critical characteristics of video segments
Ability to locate video segments accurately

Disadvantages of IVD

Need for specific, expensive hardware
Requires additional skills for the design and development
Requires additional time and manpower to develop
May add time to the instructional process
Severely limits portability

Steps Involved in Producing Computer Based Training Materials

Analysis

1. Undertake problem/skills/task learning analysis;
2. Identify specific aim and objective of the project;
3. Anticipate benefits;
4. Consider budgets, resources, constraints, time scale;
5. Determine interactive strategies and structures;
6. Identify team;
7. Identify audience; and
8. Identify subject matter.

Design

1. Outline design;
2. Software specifications;
3. Hardware specifications;
4. Detailed design (interactive, instructional strategies; design formats for screens, text, graphics);
5. Scripts;
6. Storyboards; and
7. Flow charts.

Develop

1. Learning objectives;
2. Script and storyboards; and
3. Programming.

Implementation

1. Review and edit.

What Research Tells Us About Interactive Videodisc

The most obvious strength of IVD is its potential to capitalize on the capabilities of two dynamic technologies—video and computers. The relatively new hardware configuration can combine the dynamic audiovisual message of television with the carefully planned, interactive sequences of the computer.

Because interactive video can respond to student actions quickly, it is often an ideal medium for simulations. Several studies have demonstrated the instructional effectiveness of simulations that use IVD configuration. But, indications are that learning from IVD is not clearly superior to learning via computer-assisted instruction (CAI). Researchers found no significant difference between IVD and CAI recorded test scores comparable to the scores received by those who worked with an IVD simulation, although the IVD group demonstrated mastery of the material on the most more rapidly.

In exploring the critical question of instructional effectiveness, researchers also examined learner attitudes regarding the IVD configuration. Survey results demonstrated that regardless of whether they actually learn more, subjects generally enjoy the learning experience more when visuals are included in the instructional material.

What clues may indicate that interactive video is an appropriate medium for an instructional project?

Specifically, let's consider characteristics of medium, content, learners, and learning environment.

Medium. Interactive video, at its best, capitalizes on the advantages of both video and computer-assisted instruction, and compensates for the weaknesses of each medium.

Content. One of the first considerations is whether the content will lend itself to segmentation. Another consideration is the complexity of the learning tasks. If the content is quite difficult, you may anticipate the need for remedial instruction or review of some components. Interactive video is an ideal medium for providing these types of options for the learner.

The need for realism should be considered as well. Video provides a high degree of realism, and if the

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learning will benefit from this type of treatment, then interactive video may be appropriate.

Learners. Because interactive video can be designed to provide a variety of paths through instruction, it is one of the better media available for dealing with heterogeneous groups of learners. However, the wider the range of abilities and aptitudes exhibited by the target audience, the greater the advantages of interactive video over other, more conventional media. With well-designed interactive video, it is possible to accommodate the needs of various learners within a single treatment, through the use of remedial segments, flexible ordering of presentation, options for bypassing unnecessary instruction, and variable feedback.

The number of potential learners is also a significant selection variable. Although there are no absolute numbers necessary to justify production, generally speaking, the greater the number of potential learners, the more closely the cost-per-trainee approaches competing media.

Learning environment. The location of the audience can also be important. If learners are centrally located, then many types of training approaches are possible, including such things as classroom training and site visits. If the audience is dispersed, located over a wide geographic area, then an individualized approach wh exhibits the power, immediacy, durability, and flexibi of interactive video becomes more attractive. It c provide a cost-effective means of distributing instructi especially considering the savings realized from tra and lodging expenditures often associated with traini events centrally offered.

Because of the cost and complexity involved in int active videodisc, it is important to consider the followi questions:

- Are realistic images required?
- Is motion required?
- Is motivation or maintaining attention a problem
- Is reading a problem for the target audience?
- Is teaching to mastery important?
- Is recordkeeping important?
- Is it likely that an objective will require several attempts before successful completion?
- Are completeness of learning and retention important?
- How large is the potential audience for this program?
- Is interactive video equipment already available to this audience?

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CASE STUDY: INTERACTIVE VIDEO AT FEDERAL EXPRESS

Source: "How Federal Express Makes Your Package Its Most Important," by Diane Filipowski, *Personnel Journal*, February 1992, pp. 40-45

Federal Express' motto is "100% Customer Satisfaction," a slogan that helped it become the first service company to win the Malcolm Baldrige National Quality Award in 1990 and *Personnel Journal's* 1992 Optimas Award. This article explains how pay-for-performance and pay-for-knowledge incentives, based on interactive video training and job knowledge testing, have helped the company reinforce its motto among its 35,000 employees. One problem facing the company was that customer contact employees were divided into 3 divisions—a situation that created inconsistencies in training. Interactive video resolved that problem and today, Federal Express has 1,225 interactive video units in 650 locations nationwide. The company's IV training consists of a 25-disk curriculum, covering a variety of topics, from customer service etiquette to dangerous goods and defensive driving. The training programs come with self-explanatory resource guides which help make the courses easy to use. Other benefits of IV training include its convenience and the individualized training it offers. The company itself also benefits from interactive video training: (1) employees now receive consistent, universal training, (2) it is economical, and (3) it compresses learning time, reducing a formerly 4-day program into only 2-1/2 hours. Job knowledge testing is carried out twice a year for each employee, and it is divided into 5 levels of difficulty. Following the testing, a score and a student improvement prescription are produced by computer. Any employee who fails the test must repeat the training necessary to pass before he or she is allowed to return to the job. While the thought of this testing intimidated some employees at first, most have been able to pass the tests on the first try. Federal Express' computerized testing system has made testing easier (1) by grading and recording scores electronically and (2) by clarifying test analysis. (AN100)

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If you answered "yes" to the first eight questions, your instructional goals could be met by using interactive video. Question nine requires that the size of the audience be considered. If the audience for the program is potentially very large, interactive video might not be a wise choice because the requirements for unavailable equipment may preclude use of the lesson by a large segment of the potential audience. If the audience is too small, it may be very difficult to justify the cost of interactive video lessons. On the other hand, if the answer to question ten indicates that the appropriate equipment will be available to the target audience, then it may be wise to implement interactive video.

Software Cost and Availability

Generally, production costs for videodiscs can be compared to those of high quality film or videotape production, although the number of still frames employed and the complexity of the treatment can increase the production costs of discs dramatically, whereas linear media are more stable.

Costs for videodisc development diverge from other motion media during post-production. Some of the unique or significantly different costs include:

Programming. Level II and Level III applications require the development of a computer code to drive the videodisc, and sometimes computer-assisted instruction as a companion to the video portion of instruction. Depending upon how elaborate the programming needs become, computer programming can be a time consuming and costly enterprise.

Still Frames. The combination of still and motion media is an attractive part of videodisc, but those still frames are expensive to produce. Some of the still frame costs are absorbed during preparation and production, but post-production costs will still rise.

Mastering. Videodisc manufacturing includes a set-up charge for each disc side duplicated. This is a one time-only charge from the manufacturer, and is currently in the $1500 to $2500 per side range.

Check Cassette, Check Disc, Proof Disc. Checking cassettes costs approximately one hundred dollars per side, and check and proofing discs cost approximately $375 per disc. In addition, you must include the review time required and the production delays experienced as a result of the additional review.

Time. Producing interactive video is exacting and can be complex. Project management time will be longer than with other media, and inevitable delays will occur throughout the post-production process.

Duplication. Once everything else has been completed, disc replication is relatively inexpensive. Disc replication costs are approximately ten to fifteen dollars per one-sided disc and fifteen to twenty dollars per two sided disc, with substantial discounts for volume orders.

It is obvious that the clear advantage of interactive video over computer-based training is the ability to support audio and motion sequence. However, in the final analysis, the production and duplication of videodisc software is cost-effective if a specific training need is met, large quantities of material must be stored in a small area, or a relatively large number of copies can be made and distributed.

Videodisc Authoring Systems

Adroit	Saber
Audio-Visual Connection	Socratic
Authology	Summit
IncoAuthor	Teachers Aide
Linkway	TenCore
Plato	TenCore Producer
Quest	

Steps Involved in Producing Interactive Videodiscs

Analysis
1. Undertake problem/skills/task learning analysis;
2. Identify specific aim and objective of the project;
3. Anticipate benefits;
4. Consider budgets, resources, constraints, time scale;
5. Determine interactive strategies and structures; and
6. Identify item.

Design
1. Outline design;
2. Software specifications;
3. Hardware specifications;
4. Detailed design (interactive, instructional strategies; design formats for screens, text, graphics);
5. Scripts;
6. Storyboards; and
7. Flow charts.

Audio-Visual Production
1. Script;
2. Storyboards;
3. Contract and hire agreements; and
4. Copyright documentation.

Production
1. Camera/shooting script;
2. Shoot moving footage;
3. Prepare still footage; and
4. Record additional audio such as voice-overs and music.

Post-Production
1. Assemble AV materials;
2. Transfer stills and graphics to videotape;
3. Undertake off-line edit; and
4. Undertake on-line edit to produce master videotape.

Software Production and Integration
1. Text screen and captions for video material;
2. Computer graphics and animation; and
3. Computer control program.

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Disc Mastering, Replication and Final Integration

1. Produce check disc;
2. Integrate AV material and computer software;
3. Produce master videodisc and replicate videodisc;
4. Replicate computer software;
5. Integrate total interactive package: hardware, software, support materials, housing;
6. Begin field trials and validation; and
7. Initiate evaluation.

Summary

Computer-based training is usually based upon modular branching paradigms familiar in print-based programmed learning materials. It successfully involves students actively in the instruction, but due to inherent limitations lacks the realism and immediacy of television.

Interactive video is a recent development in instructional technology, merging of computers and television. This marriage has produced a hybrid technology which can provide the structure and involvement of computer-assisted instruction and the realism of television. For interactive video to realize its potential, rigorous design and technical requirements must be satisfied.

Educators and trainers can make informed decisions about the use of CBT versus IVD by studying the large body of research that deals with the instructional effectiveness of these technologies. Also, answering questions regarding learning outcomes, budget constraints, and other issues is critical before committing to one medium over the other. Knowing the advantages and disadvantages of each instructional system is key to selecting an appropriate and cost-effective instructional approach.

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TDY 93/94 CASE STUDY: INTERACTIVE VIDEO AT SAUDI ARAMCO

Source: "Training with Interactive Technologies," by Carla Strong, *Instruction Delivery Systems*, March-April 1992, pp. 7-10

The Saudi Arabian Oil Company (Saudi Aramco) had been training employees in technical skills since 1984 using an ISD-based structure of job training and certification programs. However, an average failure rate of 20% from 1986 through 1988 became just too expensive, says the author: $3,300 for each recycle and more than $13,200 for each program washout. Enter the *Activ® Training System*, developed by the Industrial Training Corporation of Herndon, Virginia. Saudi Aramco's Electrical Technician Group used *Activ*, an interactive, performance-based, multimedia training system, to develop a ten-unit course of advanced instruction in Electrical Technician training, and they experienced a big savings. Training attrition fell from 24% to 18%, and the "wash out" rate declined from 20% to 9.6%. The program directors see the savings as $198,000 per year over a 5-year period—a total annualized return of 36% on the interactive training investment. This article, in addition to reviewing Saudi Aramco's experience, summarizes the criteria for successful interactive training programs and the benefits of interactive technologies. (AN101)

TDY 93/94 IN BRIEF

BENEFITS OF INTERACTIVE VIDEO

Source: "A Major Technological Advancement in Training," by Douglas G. Muller and Robert Leonetti, *Instruction Delivery Systems*, July-August 1992, pp. 15-17

Interactive videodisc, say these authors, offers students many advantages over traditional group training methods because the audio and visual imagery is so highly realistic that the percentage of learning transferred to the actual situation is very high. The authors describe interactive video as a synthesis of instructional, computer, and video technologies, and they highlight (1) its random access features, (2) its ability to record student responses and progress, and (3) its ability to transfer information quickly and efficiently to a centrally located facility. Interactive video does have its limitations, they concede, especially when the time comes for the student to progress to real world experience, but skill and information retention are definitely enhanced by this type of learning. The authors conclude by describing the physical features of an interactive video learning station and by listing the advantages of such a system: timeliness, flexible training periods, effectiveness (i.e., rapid learning and high retention rates), multiple applications, and validation. (AN102)

A BRIEF HISTORY OF DVI

Source: "An Outline History of DVI," *CBT Directions*, May-June 1992, pp. 8-13

While the press is focusing right now on digital video applications in marketing and entertainment, says the editor, readers will soon be asked to prepare presentations to management about training applications of digital video interactive (DVI). To provide background for these presentations, the editor asked Intel Corporation to prepare a chronology of DVI commencing with its introduction of the Pro750 Application Development Platform in early 1989. The Intel author highlights a number of milestones, including (a) Intel's collaboration with IBM to develop Micro Channel Architecture boards to support both DVI and VGA, (b) marketing of DVI technology in Japan and Europe, (c) submission of a video compression coding algorithm to the International Standards Organization, (d) a video compression breakthrough enabling video footage to be compressed at 30 frames per second on a PC platform and replayed in real-time at full speed/full screen, (e) the introduction of a DVI authoring system, *Authology: Multimedia*, (f) ActionMedia 750 boards and software with software tools such as RTV 1.5, (g) introduction of the i750 video processor, (h) *PLV 1.0* software for off-line video compression, and (i) *ActionMedia II* add-in boards for Windows 3.0, OS/2 1.3, and DOS environments. (AN103)

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INTERACTIVE VIDEOTAPE

Source: "Simulating IVD with Videotape for Prototyping and Quick Turnaround," by Lewis Mandell, *Journal of Interactive Instruction Development*, Spring 1992, pp. 25-26

It takes great humility to listen to your customers, says the author. But when he did that, he found that potential users of interactive video (IV) technology wanted, for the most part, a simple and inexpensive way to ensure that their employees watched and understood videotapes. The author describes how he tied together the customer's PC, VCR, and TV with simple interface hardware and "no-manual" software for a low-cost system. "With few exceptions," he observes, "the learning process is linear," thus allowing for a linear videotape. Since searching for the right sequence on videotape takes more than a second or two, thus disrupting the learning process, the system remediates exclusively through material stored on the computer disk or in memory, rather than on tape. This linear tape, random access remediation (LTRAR) system can reproduce nearly all the functionality of a high-level IVD at a tiny fraction of the time and cost, he concludes. (AN104)

D. MULTIMEDIA

TDY 93/94 RESEARCH SUMMARY: EXTENT OF MULTIMEDIA USE

Source: "How Widely Does the CBT Community Use Multimedia?" by Floyd Kemske, *CBT Directions*, January-February 1992, pp. 22-30

A survey returned by 223 *CBT Directions* readers in the fall of 1991 indicates that 80% of respondents are using courseware that incorporates multimedia, compared to 20% who administer or produce text/data-only type software. Multimedia was defined in the survey as "the combining of traditional text/data with high-quality still images, motion video, animation, music, and/or sound." Average annual company spending on multimedia was expected to rise from a median of $25,000 in 1991 to $40,000 in 1992. Which multimedia enhancements were most popular? High-quality still images (50%), motion video (34%), sound (25%), animation (19%), and music (11%). Respondents used DOS (53%) the most, followed by *Windows* (45%), Macintosh (29%), and others. (AN105)

TDY 93/94 CASE STUDY: MULTIMEDIA TRAINING AT ANDERSEN CONSULTING

Source: "A Global Commitment to Multimedia-Based Training," *CBT Directions*, November-December 1992, pp. 30-31

Andersen Consulting, the systems integration and technology business arm of Arthur Andersen and Co., annually reinvests a full 8% of its $5 billion revenue in training for its employees. As this article reports, the company has recently turned to interactive multimedia to meet the training needs of its 600,000 employees throughout the world. The Business Practices Course (BPC) uses multimedia to simulate real-world client engagements, features 180 minutes of digital video interactive (DVI) audio and video segments stored on CD-ROM discs, and takes 38 to 45 hours to complete—a substantial time reduction from previous self-study courses. BPC, the article continues, was developed using *Authorware Professional for Windows* from Macromedia, and its software uses DVI technology from Intel's ActionMedia II Capture Module Board. The program brings Andersen a 50% reduction in training time—a cost savings of $2 million per year. (AN106)

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GETTING STARTED WITH MULTIMEDIA

Source: "But Is It Training?" by Mark Fritz, *CBT Directions*, July-August 1992, pp. 14-27

The one thing that separates traditional business presentation packages and the new multimedia packages, according to this author, is built-in controls for easily adding and handling audio, animation, and video. While many DOS-based products cannot offer the multimedia capabilities of those that are *Windows*-based, he says, there are solutions. He examines ways in which DOS presentations can be adapted to include many of the features of multimedia. For example, programs such as Eclipse's *Madison Ave.* and Mathematica Inc.'s *Tempra Show* can add sound and even motion video to a system. IBM's *Storyboard Live* has full multimedia capabilities, he says, including the ability to incorporate video clips into the presentation. State-of-the-art animation is possible through products like Gold Disk's *Animation Works Interactive*, and Macromedia's *Action!* The author discusses the considerations to be reviewed in deciding whether to purchase a presentation product or an entire authoring system, including the lower cost and time efficiency of the former. He also explains the capabilities of low-end authoring systems such as *IconAuthor*, *HSC Interactive*, and *Authorware Star for Windows*. Sidebars compare the Apple and Amiga platforms and offer profiles of user experiences with various presentation tools. (AN107)

ADDING AUDIO TO CBT USING CD-ROM

Source: "Multimedia Training at Hewlett-Packard," by Carolyn Spitz, *Training & Development*, June 1992, pp. 39-41

Hewlett-Packard is using CD-ROM as part of its multimedia technical training program for customers, reports the author. After defining CD-ROM and the hardware platform needed to use it, she focuses on the uses of CD-ROM's audio capability. "The narrator can describe, step-by-step, the complex syntax of a long command while corresponding parts of the computer screen are highlighted," she says. Without audio, distracting windows would overlay part of the screen. She explains how to select a narrator, and when not to use audio—for example, when feedback from the trainee is needed. "While audio is playing," she says, "it's important to have simple, easy-to-follow text on the screen," especially any information that is absolutely necessary to complete an exercise. The text reinforces the audio instruction and helps to ensure that trainees can execute the tasks successfully. She also notes that trainees appreciate having a summary of the information covered in the training printed in the training guide, so that trainees feel like the master—not the slave—of the technology. (AN108)

CAPABILITIES OF M-MOTION

Source: "Design Strategies for M-Motion," by Nancy W. Kenworthy and Michael Wei, *Journal of Interactive Instruction Development*, Summer 1992, pp. 3-5

M-Motion™, a new IBM multimedia product, offers several advantages over earlier interactive videodisc technologies, say the authors. They explain *M-Motion* as a multimedia card that can be installed in more advanced IBM computers, and they observe that it offers two major advances: (a) video from one part of the videodisc can be played with audio from another, allowing a much more flexible disc design, and (b) the card can display both video and graphics as VGA images. The authors go on to suggest various design strategies which *M-Motion* opens up:

- Stills can now be digitized and stored on videodisc or videotape, and they may be arranged as multiple stills on the screen at one time, or overlaid by video sequences. Video effects such as fades and dissolves can be accomplished by software.
- Video/graphic combinations are possible since both are displayed as VGA images. For example, a moving video could be used to provide a human commentary on teaching conducted through computer graphics.
- Multiple and varied inputs can include video from a VCR, multiple videodisc players, and audio from a CD player or digital audio. This will expedite translation of programs into other languages.

"In addition to these strategies," the authors conclude, "*M-Motion* capabilities make repurposing of existing videodiscs a realistic possibility." (AN109)

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E. HYPERMEDIA

TDY 93/94 IN BRIEF

SKEPTICAL VIEW OF HYPERMEDIA

Source: "Instructional Applications of Hypermedia: Functional Features, Limitations, and Research Issues," by Ok-choon Park, *Computers in Human Behavior*, Vol. 8, No. 4 (1992), pp. 259-272

There is no significant difference between hypermedia and hypertext, says the author, except that a hypertext program consists of basically textual information, while a hypermedia program consists of mixed media: text, graphics, animation, video, and/or sound. However, hypermedia differs from CBT in that the hypermedia program is completely controlled by the user. The author describes the hierarchical node and link structure of hypermedia, as well as some of the practical requirements for a hypermedia system, such as a browser, window specifics, node selection by key words, and the ability to interface with hardware peripherals. He observes that researchers have failed to provide empirical evidence for the positive effect of the learner-control principle. "Until better methods and techniques for implementing the learner-control strategy and for presenting information in the different nodes by semantically integrated forms are developed," he concludes, "the use of hypermedia as an instructional delivery system should be limited to cases in which the learner control function is required (e.g. reference books) or the users are capable of determining their own learning needs and strategies." He concludes by discussing the use of hypermedia as an idea-generation and organization tool, and as a file storage and organization system, and he describes the research issues for the instructional application of hypermedia. (AN111)

USING HYPERMEDIA JUDICIOUSLY

Source: "Hypermedia CBT: Benefits and Risks," by Xiaoming Zhu and Marie Raines, *Journal of Interactive Instruction Development*, Summer 1992, pp. 11-17

While hypermedia provides CBT with benefits such as quick and easy access to information, non-sequential presentation of information, and motivation of learners, it also has its risks, say the authors: (a) since there are no prescribed sequences for learners to follow, instructional goals fail to be met, and (b) learners can become lost in their hyperspace wandering. After describing some exhaustive hypermedia systems, the authors point out an approach that avoids the problems of completely open systems. For example, the program can force the learner who has jumped to a course glossary to return to the lesson activity from which he came, thus diminishing the risk that the learner will fail to grasp the structure of the knowledge being presented. The learner can also be guided from one lesson to the next. The authors suggest strict sequential presentation whenever a hypermedia approach confuses the learner. "Hypermedia presentation is best suited to large amounts of loosely organized information that the learner is not expected to absorb," say the authors, and it "is suited to the supportive and enriching information in a CBT course as long as it helps contain information and/or facilitate learning." They conclude: "Hypermedia CBT is a trend, not a direction. The direction for CBT is to incorporate hypermedia features in CBT that achieve its highest instructional effectiveness." (AN110)

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F. SIMULATION

TDY 93/94 CASE STUDY: MANAGEMENT SIMULATION GAMES AT IBM

Source: "Observations of a Corporate Facilitator," by Bruce Rollier, *Simulation & Gaming*, December 1992, pp. 442-456

Management simulations are widely used in industry for training and development and for encouraging a top management perspective. This article looks at IBM's use of *The Strategic Management Game (SMG)*, a product of the Strategic Management Group, Inc., and it discusses several questions related to the administration and educational effectiveness of simulations from the perspective of a corporate facilitator. The author served as a facilitator for this game in 15 classes held over a 4-year period, and he begins the article with a brief outline of his observations. He also examines several assumptions about the value of simulations in general, and he touches on administrative issues such as: (1) determining the number of sessions needed to teach the program and to be consistent with cost effectiveness and (2) determining the size and makeup of the teams. The facilitator's role consists of: (a) keeping the process running smoothly while remaining in thebackground as much as possible, (b) answering questions with another question rather than with direct answers, (c) being knowledgeable about the dynamics of the model and about all other aspects of the simulation—such as strategic concepts, accounting, economics, and investments—and (d) conducting a thorough debriefing that helps participants explore what they have learned from the simulation experience. The SMG's dynamics were troubling to the author at times, and he recommends that more time be spent in clarifying training objectives before designing the educational games to accompany it. (AN112)

TDY 93/94 CASE STUDY: INTRAFIRM COMPETITION WITH A BUSINESS SIMULATION

Source: "A Company-Wide Business Game," by Bill Brewer, *Journal of European Industrial Training*, Vol. 16, No. 1 (1992), pp. i-ii

When the UK's TSB Insurance sought a business simulation to build teamwork across the organization, it selected *Executive* business simulation from April Training Executive Ltd., Fordham, Cheshire, England. Teams were invited to join the 12-week game through ads in the company newspaper. An entrance fee of £50 per team helped increase competitiveness, as did the first prize of £250. Eventually 18 teams of from 4 to 7 people entered the competition, from secretaries to top managers. The author considered the game extremely successful in (a) aiding interdepartmental communication, (b) helping people appreciate what others in the organization do, (c) developing good management skills, (d) and gaining better understanding of the financial implications of business decisions. "It is always tempting to think that technology-based simulations take the work out of the facilitation of the exercise," comments the author. "I can tell you from vast experience that this is not so. Unless you are prepared to guide and facilitate all the participants, then quite frankly, you may as well not start in the first place. The simulation is a training tool and cannot stand alone." (AN113)

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COMPUTER SIMULATIONS IN MANAGEMENT TRAINING

Source: "Using Computer Simulations in Management Education," by Bruce Curry and Luiz Moutinho, *Management Education and Development*, Vol. 23, Part 2 (1992), pp. 155-167

This article looks at the demand for computer skills and knowledge among managers, and at the currently popular concept of the "hybrid manager." Computer games and simulations can be enormously useful in the development of hybrid managers, the authors argue—by extending their marketing and general management skills, and their computer expertise, as well. The authors discuss the educational philosophies of Piaget and Binsted as they relate to management and computer education, and they list the potential advantages of using computer simulations, as opposed to traditional training:

- Students are able to make a series of decisions at multiple points in time.
- Active participation is required.
- Increased experience with corporate decision-making is provided.
- The element of uncertainty is introduced for greater realism.
- There is increased motivation through competition.
- Decision-making is reinforced.
- Learning is more effective with increased speed of learning and retention of knowledge.
- Distance learning is made easier.

Disadvantages of computer-based learning are also discussed. The authors then focus on the selection of software and hardware for the computer system, contrasting the capabilities of microcomputers with those of mainframes and mid-range systems, and looking at the various categories of software available: (1) spreadsheet models, (2) business games and specialized simulations, (3) CBT/CAL software, (4) expert systems, and (5) intelligent tutoring systems. The authors also list the features to be considered in selecting simulation programs: realism, relevance, complexity, the student interface, administrative efficiency, and implementation on a microcomputer. (AN114)

BANK MANAGEMENT SIMULATIONS

Source: "A Valuable Training and Development Tool," by Thomas M. Parzinger, *The Bankers Magazine*, May-June 1992, pp. 75-80

A simulation of the banking environment can be a highly useful tool for training bank management, says the author. In the typical simulation exercise, he observes, preassigned teams must organize themselves quickly to replace a hypothetical management team that has departed. Team members select a CEO, loan officer, etc., and then they assess the situation in which the simulated bank finds itself. The author discusses rotating positions and pairing more and less experienced team members in order to fill various roles. Participants sometimes feel inundated with reports, but they learn to closely monitor the ones which have the greatest impact on their areas of responsibility. Success, explains the author, should be based on a wide range of performance factors, not just the final stock price. As a final test, simulation teams are frequently required to make presentations before their "boards of directors," who may question aspects of the team's performance. Simulations help participants "broaden their own horizons by performing new duties and being creative in pursuing strategies that they might hesitate to try under normal working conditions," concludes the author. "Because they don't have to fear that their actions will lead to 'real' dollar damage, participants can concentrate more fully on the learning process." He notes that simulation exercises can also be an excellent way to acquire some needed humility or realism. (AN115)

G. VIRTUAL REALITY

THE POTENTIAL OF VIRTUAL REALITY TECHNOLOGY FOR TRAINING

by Teresa Middleton

Future Scenario for Virtual Reality Training

A Special Operations Team is planning an assault on a building where hostages are being held. The degree of detail for such an operation is considerable. Special tasks need to be performed in unusual circumstances. Each soldier has particular tasks, and all are critical. The hostage rescue on a building requires knowledge of the building layout. Alternative approaches to the objective are critical—helicopter insertion on a building roof, or using an existing sewer system to gain entry, must be considered. Ruses and deception are part of the drill and

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need to be visualized. Timing is critical—all actions in the assault must be simultaneous to prevent counteraction by the captors.

How do you train soldiers for this type of activity? That scenario, not unusual in the world of mission planning and rehearsal, is one of many for which VR technology appears to be appropriate, because it would provide a simulated environment that is as close to the real one as possible.

Before discussing further VR technology's potential for training, I would first like to describe briefly what I mean by VR, because there are so many definitions. VR technology is not a discrete technology, but rather represents the convergence of a number of technologies, brought together to achieve a desired effect—to put the user into simulated, "other world" environments. Within these three-dimensional, simulated environments a user can interact with, and manipulate, objects in real time. The virtual environment may be a representation of the real world (e.g., a simulated building, a particular terrain), or it may be a fantasy world created for entertainment. The overall goal of VR is to provide a user with a feeling of immersion, or presence, in the simulated environment. The degree to which this feeling of immersion is achieved is one measure of VR's capabilities.

VR developers have already provided a significant service to the research and development community by creating today's systems on which tomorrow's advances can be based. They have carried the technology to the state in which potential users can visualize applications for their own professions or businesses. *Current* VR systems offer a surface level of simulation that may not be sufficient for most types of training. However, what VR will support, in the future, as its designers achieve their goals, is a deeper level of simulation, where characteristics of the world can provide a more profound understanding of how things work.

As we have seen in the opening scenario, VR already seems to have considerable appeal for certain types of training, with its apparent capability of allowing the trainee to visualize and experience a task more clearly. At HRI, we are undertaking a number of studies for clients on VR. For the Air Force and other clients, we are helping to identify areas of education and training that might benefit from VR technology. Work has only just started; however, I can tell you some of our initial thoughts on this.

First, I should underscore the fact that the most important consideration in all our work is to provide quality training. We believe that VR or any other technology should be used only if it (1) offers an improvement on the way training is presently conducted, including present forms of competing technologies; (2) reduces costs without reducing quality; or (3) provides training in an area that is not possible before.

The first step in our work in VR is to identify particular characteristics of tasks that make them good candidates for VR training. These characteristics include task features such as the following:

- Requirement for rehearsal and practice
- Requirement for learning about equipment that is not yet built
- Requirement for working from a remote location
- Requirement for visualizing objects/processes that are usually not accessible
- Use of critical sensorimotor components
- High potential for damage to equipment or danger to individuals
- Requirement for visualizing a dynamic operation
- Performance under high cognitive load or stress
- Performance in hostile environments

The next step is to identify a set of tasks that embody task features likely to be associated with a high potential for effective VR training. Then, we assemble small working groups of subject matter experts in the field of interest to assist us in generating tasks that exemplify task features we have developed, and obtain judgments on sensory, cognitive, and motor skill requirements of the tasks; judgments of each task's importance; information on present training systems for the tasks; and ratings of effectiveness of current training.

Some tasks that we have identified as appearing to be particularly appropriate for VR technology are operational tasks. Many require rehearsal and practice training; some relate to training on new equipment, others to training on equipment that is dangerous or placed in a remote location. A few are described briefly below.

Rehearsal and Practice

Many operational tasks require rehearsal and practice in an environment that simulates the real-life environment. For example, an operational task in the Air Force is marshaling, a task in which a person on the ground—through hand and arm signals—must assist a plane in landing. Current training practice is for a trainee to be taught hand and arm signals, practice them with no plane landing, and then practice them with an instructor "simulating" the aircraft or on the job with an actual aircraft coming in. This is a dangerous practice because of the proximity of fast-approaching planes and the need for split-second timing. Although the procedures are not difficult in themselves, executing them while a multi-ton aircraft bears down on you is highly stressful. The marshaling task should be rehearsed and practiced in a realistic, simulated environment before the trainee is required to bring a real plane in to land.

In medicine, an operational task that is certainly a real-time task is performing a surgical procedure. A surgeon becomes familiar with a specific operation through work on animals and then typically rehearses surgery many times on a human cadaver before attempting surgery on a patient. Being able to practice surgery in a simulated environment could save valuable time on the operating table later.

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A third example of operational tasks is provided by the Army battle drills, emergency drills, ambush techniques, and so on. Rehearsal and practice are critical in training on squad formations. Squad formations, simple methods of organizing squads for combat, are structured so that each team and each soldier has particular responsibilities within the formation. Movements and techniques must be automatic in combat, so they are constantly drilled because of changing situations, changing personnel, and changing policies and procedures.

For these tasks, VR technology potentially offers considerable value over and above existing methods of training. For some operational tasks, the fidelity of the simulated environment is critical. Surgeons, for example, need to have the same motor control and complex sensory feedback (visual, kinematic, tactile, and aural) that they would have if they were actually carrying out the operation with their own hands. Although VR technology has not yet reached the level of sophistication in feedback techniques needed for this type of training, a considerable amount of effort is being put into this area.

For other tasks, fidelity of the simulated environment may be less important. In teaching training for formations and movement, for example, VR-supported training would not necessarily have to involve physical actions associated with these tasks, but rather the coordination, visualization, and spatial reasoning skills required to use resources effectively. A current barrier to VR technology's support for physical actions is lack of free motion within the environment as the participant is tethered to the system by cabling to input devices; however, existing technology would support the need to learn coordination with others in the same virtual environment, and the visualization and spatial reasoning skills.

Tasks That Require Training on Equipment Not Yet Built

VR technology has the potential for training personnel on equipment that has not been built. The question in this case is whether equipment to be built is best simulated with VR or by other standard methods, such as a stand-alone simulator. One aspect of that decision-making is the cost trade-off, another is the type of equipment being designed, and a third is the type of task involved. It may be that training a mechanic for tasks that involve maintaining new equipment may necessitate making sure that the mechanic understands consequences of certain acts—consequences that can be portrayed only in a virtual environment.

For example, in a real plane, a mechanic cannot see what happens when a fuel switch is thrown, because fuel lines are buried behind panels. In a simulated environment, these panels could become transparent, and the mechanic could trace the flow of fuel after a switch is set. This ability to "zoom" into an environment permits exploration of structures in ways not possible in the natural world. The user can perceive phenomena that are not normally perceptible at all—the user can see the invisible (Robinett 1991). In this case, VR's ability to create something artificial becomes a virtue.

Tasks in Remote Locations; Dangerous Tasks

Clearly one of VR's potential strengths is to represent environments that in the real world are inaccessible to the trainee or too dangerous in which to practice. Where VR's allied technology, "telepresence," is likely to be appropriate for performing the task itself, VR is likely to be the training technology of choice. For an explanation on what we mean by the term "telepresence"—teleoperation is human performance of tasks at remote locations, usually using manipulators, under direct or televised observation; telepresence goes much further. It provides the teleoperator with the same motor control and complex sensory feedback that he would have were he actually at the remote worksite, carrying out the operation with his own hands (Green, 1991). As virtual worksites are created, so training the teleoperator in these techniques will be critical, and this can be done entirely in virtual environments.

Improving VR for Training

While we believe that VR has the potential of supporting a wide variety of training—and I have given you just a few examples—some advances in the technology will be critical to enable it to become the technology of choice. Current development issues of interest include the following:

- **Reduction of system delays.** Significant delays are introduced by tracking systems, communications networks, and computation time. Delays affect all types of sensory feedback (visual, auditory, tactile, force), with visual delays being the most noticeable.
- **Inclusion of tactile and force feedback capabilities.** VR systems provide the user with position feedback, enabling the user to manipulate objects. However, at present there is no way for the system to provide tactile and force feedback regarding the shape, weight, or size of an object being held or examined. This is an essential component of any future VR training system, as feedback is critical for improving operator performance (Marcus 1991). Currently, a number of developers are working on the problem, notably Exos and TiNi Alloy.
- **Improvement in visual display resolution.** This feature limits the size of objects that can be represented at both near and far distances, the number of depth planes that can be represented, and the complexity of objects within the environment. Current VR visual displays have limited resolution, reducing a user's visual acuity to 20/200 (Lanier). This is the equivalent of being able to detect 1-inch objects at 30 feet; a system

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providing the equivalent of 20/20 vision would allow detection of a 1-inch object at 300 feet. Some types of training, particularly rehearsal, might require only a limited field of view; other training applications will require improved resolution.

- **Mobility.** Most current systems "tether" a user with cables running to the head-mounted display. For many training functions, trainee mobility needs to be unrestricted.

Summary

VR technology has reached the stage in its development wherein its potential for supporting many types of training can be easily visualized. However, advances in the technology itself are necessary before it can reach its potential for supporting useful training applications. Perhaps Larry Koved said it best: "In today's level of [VR] sophistication, in a walkthrough in a virtual world touching a knob opens a door, [but] as you turn a door knob, you should simultaneously see the knob turn, feel the torque on the knob, and hear the latch click." When the technology is capable of supporting that relatively sophisticated illusion, VR will be truly effective as a training technology (Koved 1991).

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TDY 93/94 RESEARCH SUMMARY: BENEFITS OF VIRTUAL REALITY

Source: "Virtual Reality Today on a PC," by Michael Christel, *Instruction Delivery Systems*, July-August 1992, pp. 6-9

How much does virtual reality improve over still images? The author performed research using a virtual reality course, "A Cure for the Common Code," which was designed to teach participants how to do group code inspections. The program, by Software Engineering Institute, was designed to run on an Intel 80386-based PC system with a digital video interactive (DVI) board set and CD-ROM drive. After describing the virtual reality aspects of the course, the author outlines 2 studies performed as part of his Ph.D. thesis research on the learning value of virtual reality:

- One group of subjects used the program but saw only visual information as a still image every 4 seconds or slower, while other group saw motion video. When the subjects were tested on the recall of information they saw or heard, those seeing motion video recalled significantly more information than those who received the slide-show presentation.
- One group of subjects navigated through the "offices" by moving through a series of related photographic images of hallways and rooms. The other group used a single graphic image of a floor plan and a mouse cursor to click on the room they wished to visit next. The subjects who received the surrogate travel interface rated the code inspection terms as more powerful than the subjects who used the graphic floor-plan image. (AN116)

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TDY 93/94 IN BRIEF

APPLICATIONS OF VIRTUAL REALITY

Source: "Is Virtual Reality Virtually Here?" by Clay Carr, *Training & Development*, October 1992, pp. 37-41

Virtual reality (VR) is still in its primitive stages, this author says, but it is already displaying great potential. This article describes VR and discusses possible training applications for the medium. Specifically, VR is desirable:

- When training mistakes would be too costly or even deadly, as in simulating an air crash,
- When the necessary environment can't be experienced in the real world, such as space training,
- When the training requires interfaces that can be sensed and manipulated,
- When it is necessary to make training situations really "real," and
- When it is desirable to make key concepts visible.

The author concludes with a few cautions about the feasibility and even desirability of virtual reality, particularly with sexually dysfunctional or highly impressionable people, and he expresses the concern that virtual reality may only succeed in making real reality that much more uninteresting. (AN117)

ANOTHER PERSPECTIVE ON VIRTUAL REALITY

Source: "Virtual Reality as a Learning Medium," by Sandra Kay Helsel, *Instruction Delivery Systems*, July-August 1992, pp. 4-5

While virtual reality is both innately fascinating and currently the focus of much media hype, the author contends that it holds much potential value as a learning medium. Nevertheless, she warns that the technology is far from mature, and the educational issues have hardly been approached. The author describes the various current types of virtual reality: full-immersion systems, the "through the window" approach, and communicating with characters inside the imaginary world. Then she notes the 2 major shifts that are occurring in the teaching/learning process: (1) curriculum will no longer be print-based, but instead will be based on auditory and visual imagery, and (2) learning will shift from the use of printed abstractions to the use of simulations or experiential re-creations of events in which students participate. Finally, she raises 2 questions: How do we ethically and accurately duplicate/create another person, time period, or place? How does the human perceptual system process and best utilize visualization and sonification data generated by virtual reality curriculum? (AN118)

H. ELECTRONIC PERFORMANCE SUPPORT SYSTEMS

PSS! HELP WHEN YOU NEED IT

by Clay Carr

In August 1945, *Atlantic Monthly* published a short article by Vannevar Bush, "As We May Think." Bush, director of the U.S. Office of Research and Development, said he was impressed by the "information explosion" he saw occurring. To deal with the explosion, he proposed a "memex"—an automated desk that would provide the information needed, just when it was needed.

Bush didn't propose the use of computers for his memex. At that time, computers were far too primitive to manage information in any meaningful form. But he had a clear vision of the need.

Now, computers are powerful enough to do what he foresaw. We don't call them "memexes," though. We call them "electronic performance support systems" (or just performance support systems). They have the potential to do everything Bush anticipated, and more.

What Is a Performance Support System?

There are various ways of describing performance support systems. In her book, Electronic Performance Support Systems, published last year by Weingarten, Gloria Gery says that the goal of an electronic performance support system is "to provide whatever is necessary to generate performance and learning at the moment of need."

We can expand that definition to say that a performance support system, or PSS, uses computers and

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associated technology to provide just the help a performer needs to do a job, just when the performer needs it, and in just the form in which he or she needs it.

The system may use any of a variety of kinds of hardware and software, but typically it uses artificial intelligence, hypertext, CBT methods, and what Gery calls "infobases."

But beginning with the technology could be misleading. What makes a PSS isn't the tools it uses but the things it does with those tools. Consequently we should begin with a different focus—a focus on performance and the best ways to support it.

Many of the individuals and firms who design PSSs define them in terms of functions. For instance, Comware, a firm in Cincinnati, Ohio, defines a PSS (which it calls a "knowledge support system") as an integrated combination of reference, advisory, and instruction modules. I have no quarrel with that, but I'd like to begin in a different place. I suggest that we look at a PSS as what Anthony Putman calls an "artificial person."

Putman introduced the idea in an article written with Chip Bell and John Van Zwieten. Their article, "Artificial Intelligence and HRD: A Paradigm Shift," appeared in the August 1987 issue of *Training Development Journal* (now *Training & Development*). With Keith Davis, Putman elaborated on the idea in "Artificial Persons," which appeared in 1990 in *Advances in Descriptive Psychology*, volume 5.

Please don't be misled by the term "artificial person." All it means is that PSSs perform functions that were previously performed by human beings. They fill roles that used to be filled by people. The best way, then, to look at PSSs is to ask what roles they fill.

Let's look at one of the standard functions of a PSS, that of a reference source. Most PSSs that have been built or are in the planning stages include some sort of reference. This may be in the form of an on-line manual, a hypertext help system, or any of a variety of other resources. It enables performers to access information quickly and accurately. Because most of us have to locate and use a wide variety of information, this function alone can be a real performance booster.

Suppose we switch our frame of reference from function to role. In our day-to-day life, who provides us with information? Librarians. So a PSS plays the role of a librarian—helping us locate the information we need to do a job.

The analogy of a librarian paints a specific picture of what's needed. A system designer who uses it is apt to create a PSS that effectively supports the performer and that the performer feels comfortable with. In other words, visualize the PSS as acting in the social role of librarian; then build a system to fill that role effectively.

Does that mean you create a PSS that acts like a person? Yes and no. A librarian's role is to understand—and perhaps even to anticipate—requests for information, in the language of the requester, and to fill them quickly and effectively. That's what the PSS should do when it's acting as a librarian. It doesn't have to say, "Hello, I'm the librarian—may I help you?" On the other hand, it might—if that was appropriate in the situation.

Librarian, Advisor, Instructor, and Dofer

With that introduction, let's look at the four major roles that a PSS might play:

- The librarian, helping the performer find and use information quickly and accurately
- The advisor, providing guidance and expert advice to the performer
- The instructor, providing the performer with on-demand training about specific points
- The dofer (a term coined by Putman), who does as much of the routine work of the job as possible, letting the performer concentrate on more important tasks.

We've looked quickly at the librarian role, which is a key one in most PSSs. Gery includes more than 100 pages of examples of PSSs in her book; most of the examples I'll discuss here were first cited in her book.

An advisor takes knowledge that might not otherwise be available to performers and makes it accessible to them.

What's the difference between information and knowledge? In broad terms, information tells you what the situation is; knowledge enables you to act on the information. For instance, I may know that an employee was absent from work yesterday. That is a piece of information. But the information does me little good unless I know what to do with it—whether discipline is appropriate, and if so, what it should be.

An advisor might suggest to a neophyte the most effective ways to perform specific tasks. When the performer is experienced, the advisor might help only with the most unusual situations. Depending on the performer's expertise and the design of the PSS, the advisor might either take the initiative or be available only when requested.

Steelcase manufactures office furniture. It created a PSS to advise its salespeople about how to configure the furniture for specific customers. Amdahl, a computer manufacturer, has a pilot PSS that advises field techni-

What's in a Name?

Gloria Gery and others refer to the system described here as "electronic performance support systems." That's generally accurate, but I don't believe we gain much by stressing "electronic"—especially when optical media are becoming more and more important.

Other writers refer to smaller systems as performance support "tools." I have no quarrel with that, either, but I prefer to keep the stress on systems.

Consequently, I prefer to use the term, "performance support system," abbreviated to PSS.

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n solving problems with Amdahl and other equip-
the system also acts as a librarian to help techni-
ind information on problems with no clear solu-
Intel has a PSS that helps chip technicians to
y defective chips before they're shipped to cus-
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role that should be the most familiar to trainers is
instructor. Virtually all PSSs have some form of
tor role.

ne Gayeski is one of the pioneers in understanding
portance of seeing the instructor as a role rather
function. In a paper presented in 1987, she made
tinction between creating instruction and creating
ructor—and suggested the advantages of doing the
Her paper, "Designing Instruction or an Instruc-
vas given at the SALT Conference on Artificial
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mance, a dofer can put the information on the form
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and then can become a dofer and fill out the request
for the engineer.

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well worth taking, particularly when the alterna-
the further de-skilling of our already underskilled
orce.

Ss can perform a myriad of variations on the four
The world contains all kinds of advisors, for
le. So do PSSs. The Retail Home Center's PSS,
esignCenter, operates primarily as an expert at
ing decks to be built by homeowners. My own
zation uses a small PSS, built by Descriptive Sys-
hat operates as a coach. We use it to help us make
tations to our customers.

moral is to use the roles as guides, not as rigid
ites. The key is to identify the support a human
could best give the position, and then to build a PSS
vide that support.

The Technology of PSSs

We begin by concentrating on the performance that needs to be supported and the roles a PSS must play to support it. These roles must be implemented through specific technologies. Now—and only now—the technologies become important. These technologies both enable and constrain the final form of the PSS.

What are the technologies available for constructing PSSs? Some of the more useful ones are hypertext, expert systems, computer-based training, data bases, and multimedia.

Hypertext is a way of organizing text so that it can be "navigated" in many different ways. A technician trying to resolve an unfamiliar problem might move through the text in a purposeful, focused way. Another technician, trying to get a "feel" for an aspect of a system, might navigate in an almost random way.

Hypertext is becoming more and more popular. For instance, virtually every on-line help system makes use of some form of it.

Expert systems and other forms of artificial intelligence enable PSSs to respond "intelligently" to the human performers who use them. Expert systems represent a relatively new technology that is finding a wide variety of uses. Many PSSs use expert systems in the foreground when they act as advisors, coaches, or mentors. They may also use the same systems in the background, where, invisible to performers, they can manage transactions and otherwise make life simpler for performers.

Computer-based training is a familiar technology that has been around for several decades and probably doesn't require further comment.

Data bases are another familiar technology. Almost all of us deal with data bases in some form or another, and many PSSs depend on them to store basic information. (For instance, Intel's PSS is based on a data base that contains both text and graphics.) Despite years of work, our methods for retrieving information from data bases remain relatively rigid and primitive. Researchers are trying to remedy the problem by building intelligence into the data bases themselves.

Multimedia is becoming more popular as faster hardware is developed to support it. When combined with hypertext, it permits hyper media—a way of accessing not only text but also graphic, video, and audio information.

As this decade wears on, multimedia will increasingly be influenced by virtual reality—the ability of a computer to create an artificial world in which people can see, hear, touch, and operate entities that exist only in the computer. You may have heard of wired goggles and gloves currently used to access "virtual worlds." The entertainment industry will drive this technology at a rapid pace, and this in turn will propel its implementation in industry.

For an imaginative look at the use of virtual reality to create performance-support worlds early in the twenty-first century, see Dick Cyclis's article, "PT in the Virtual

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World," which appears in the February 1992 issue of *Performance & Instruction*.

CD-ROM, read/write optical disks, and other forms of mass storage will be increasingly required to hold the exploding information contained in hypermedia data bases. A CD-ROM can hold 500 megabytes of data (about 1,000 books), but our need is increasing for even more sophisticated compression techniques. Intel Corporation is refining DVI, a hardware-based method of compressing and decompressing data, graphics, video, and sound. Iterative Systems is using fractal geometry to pursue the same goal in software.

The above roster describes the core technologies for PSSs, but certainly it doesn't constitute a complete list. For instance, Retail Home Center's DesignCenter makes broad use of the drawing and scaling technology associated with computer-assisted design.

PSSs can also be effective without the "gee-whiz" technologies: the Meetings Coach that my company uses requires only basic MS-DOS capabilities. The key isn't the technologies; it's the performance to be supported and the roles required to support it.

Most companies that currently build PSSs have moved into the arena from related areas. Comware moved into PSSs from computer-based training. Santa Fe Interactive, of Santa Fe, New Mexico, sees PSSs as part of a natural path from the marketing and sales information systems it has been building. Communitec, of Ann Arbor, Michigan, is moving into PSSs from a background in on-line reference systems.

The pattern will continue, with firms moving from component technologies into PSSs themselves.

PSSs in Context

Most new developments promise to cure a wide variety of problems. They seldom do. The most effective ones find niches in which they produce results; the rest go back on the shelf. Unfortunately, some of those that go back on the shelf might have worked if their implementers had focused them more carefully. In other words, the key to success is not just the method, but the method as it is applied to specific problems.

PSSs will succeed in some situations and fail in others. The more competently we identify promising situations and create PSSs tailored to function in them, the more quickly they will find their niche. The more we apply them as though they were a technological magic potion, the more quickly they will become another technological gee-whiz that failed to live up to its promise.

How, then, do we decide intelligently where and how to implement them? PSSs will generally succeed if they fulfill the following criteria:

- They effectively support the specific tasks of a job.
- They are the most cost-effective training method for the job.
- They interact effectively with the performers who use them.

Supporting Job Tasks

All jobs contain tasks that vary on at least three significant dimensions:

- The tasks add more, less, or no value to the output.
- They require more or less knowledge to be completed successfully.
- They are done by individuals working alone, working in face-to-face teams, or working in teams whose members are separated by time or space.

Let's look a little more closely at all three kinds of tasks.

Added value. Most jobs combine tasks that add value to the product, tasks that don't add value themselves but that are ancillary to tasks that do add value, tasks that must be performed but add value only indirectly and thus are distracting, and tasks that are simply wasteful.

For instance, a manager may set goals for a unit (adding value), collect reports on the quality of its output (ancillary), develop requests for capital equipment (distracting), and prepare lengthy justifications for making particular selections (wasteful). Effective PSSs will support the first three types of duties in different ways. They won't support the fourth type at all.

Knowledge. Jobs differ widely in the types and amounts of knowledge required for successful performance. Data input clerks follow fixed templates to input repetitive data. Budget analysts project expenditures in a variety of ways, all of which work in some cases but not in all cases. Package designers must create innovative designs that are also conventional enough to be acceptable to customers. Researchers must decide which of several promising avenues to follow.

A PSS that strongly supports performance at one of those levels will be completely out of place at another level. Even more, the greater the knowledge required in a job, the less we know about supporting it effectively with a PSS.

Individuals or teams. Many companies are emphasizing teamwork. But how many firms use teams successfully? Some work can be done best by individuals. Whether and how performers work together is the third factor that PSS designers must take into account. Supporting the work of an individual performer is far easier than supporting the work of a team. We currently know relatively little about how to use PSSs to support teamwork.

More and more, firms will depend on geographically scattered people who will work together on "virtual" teams. We know very little about supporting such teams.

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In short, effective PSS designers will deal with duties that vary in the value they add, the knowledge they require, and the extent to which they require teamwork. But there's one more element: PSSs will be most effective after jobs have been simplified and streamlined so that performers require less time and effort to accomplish results. Total quality management and continuous process improvement make it crystal clear that nothing substitutes for analysis and improvement of the processes by which work is done.

Cost-Effective Performance Improvement

We all know that we can use several methods to improve performance in any given situation, but that they won't all be equally efficient and effective. The same is true of PSSs. They provide the most cost-effective performance improvement in some circumstances—but only some.

For instance, let's identify five different situations in which someone might think about whether to use a PSS:

- In the first case, a set of intelligently prepared job aids might improve performance as much as a more complex and expensive PSS.
- In the second case, a PSS might be slightly more effective but much more expensive than structured on the job training.
- In the third case, good old reliable classroom training could provide the most significant improvement for the money.
- In the fourth case, a PSS might be the best solution.
- In the fifth case, a PSS will work, but only in combination with some other technique.

Don't jump for PSSs as a magic cure, but don't avoid them, either. You may want to look for a situation that warrants a PSS and then persuade the manager concerned to let you build a pilot. If PSSs are going to become a valuable part of the trainer's toolkit—and I believe they are—you might as well start looking for a sensible place to poke your toes into the performance support pond. Being a pioneer has risks, but pioneers who learn quickly and apply what they learn generally stay out in front.

When is a PSS a viable option? See the box, "When To Build a PSS," for a list of general guidelines. These guidelines are adapted from the working papers for my book, *The Electronic Teammate*, to be published in the spring of 1993. Use the list as a rough-and-ready job aid to help you pick the time and place to build your first system.

Interaction with Human Performers

"User-friendly" interfaces are only a small part of interaction between a PSS and the employees who will use it. The real issue in interaction isn't user-friendliness. It's control. To cut right to the chase, a PSS can operate in one or more of five modes.

In the first mode, the PSS makes decisions, asking the employee for input when required. Expert systems and other kinds of artificial intelligence operate this way. The system maintains complete control, and the human performer's basic function is to feed the beast when it's hungry. Retail Home Centers' DesignCenter operates primarily at this level.

The second scenario involves a PSS that "oversees" the employee, who makes decisions and takes actions according to the system's guidance. The person has more latitude than in the first relationship, but still can accomplish only what the system permits. Control is looser, but hardly shared. This mode is particularly appropriate for neophyte performers. AT&T's Training Delivery Consultant has many of the characteristics of this level.

In the third arrangement, the PSS volunteers help when the human performer seems to need it. Researchers have spent a lot of time and effort on ways to allow a system to "look over the shoulder" of the human performer and offer help and advice when the performer seems uncertain or about to make a mistake. So far, few PSSs—including those that are only prototypes—have seriously implemented this kind of relationship.

In the fourth mode, the employee asks for help when it is desired. Otherwise, he or she performs the tasks unaided. This is the situation, for instance, in which the PSS is functioning as a librarian or reference source. Online help systems typically operate in this mode, as does Intel's defective-chip identification PSS.

In the last arrangement, the human and the PSS work as a team. I'm aware of no PSS, pilot or running, that approaches this mode—because we know so little about how to create it.

Most efforts in computer development, including most of the research in artificial intelligence, have been devoted to the use of computers as machines—a relationship in which computers dominate human performers. Other efforts, much more limited in scope and financing, have attempted to use computers as effective tools—souped-up typewriters or drafting benches that help people do their jobs more efficiently. In a system in which computer and human work as a team, each uses his or her (or its) strengths to support the strengths of the other.

At the moment, such systems are little more than a researcher's dream. Until we can realize that dream, neither computers nor humans will operate at their full potential.

The question of interaction between computer and employees is actually two questions:

- At what level do the employees perform?
- Is the PSS expected to help develop the employees?

Knowing the employees' current performance level is vital to effective PSS implementation.

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When to Build a PSS

Enough conjecture, already! Let's turn from speculaton to practical matters—such as when you can use PSS with the greatest probability of success.

No cut-and-dried rules exist, but there are some useful guidelines. (These are adapted from a book on PSSs that I'm writing, possibly for publication in early 1993.)

You can probably build an effective PSS in any of the following five situations.

Skilled performers must spend significant amounts of time helping and correcting unskilled performers.

AT&T faced this situation at one time. The solution was one of the early PSSs, developed by Comware, to help instructors develop valid tests.

Before the PSSs, the few people who were capable of designing sophisticated tests spent most of their time helping neophytes design basic tests. With the PSS, the newer instructors design their own tests. That frees the test experts to work on the problems that require their level of skill.

A lot of documentation exists, so that employees must do extensive searches in order to find the right information.

This situation calls for a PSS to function as an effective librarian and, often, an advisor.

Prime Computer uses a PSS called Prime Source, which was designed by Barry Raybould. It helps salespeople find the information that is most relevant to a prospect's needs.

Neophyte workers must begin to perform effectively and training is either impractical or unavailable.

This is typically the situation companies face—in a dual sense—when they have "help desks." First, employees who work at help desks are expected to advise people in the field, though they may not have the experience required to do so. Also, the people who are being advised have little or no opportunity to get the training that would limit their need for the help desk.

A PSS can help at either or both ends of the problem. American Express's prototype customer-service support system enables even relatively inexperienced clerks to provide customers with the information they need, quickly and effectively.

Individual technicians, specialists, managers, or other performers need to be guided through a complex process.

Many processes, particularly those required for servicing complex equipment, have dozens or even hundreds of steps. It may be difficult to remember the correct sequence for the steps, and impossible to know the answers at all the decision points. A PSS, functioning as a librarian and advisor, can speed the process dramatically.

For instance, Aetna Insurance uses a PSS, which is called the Aetna Management Process Resource, to guide managers through the detailed steps required for making major decisions.

Teams of technicians, specialists, managers, or other performers need to be guided through a complex process.

This is a level of magnitude more difficult than providing the same support to an individual. For that reason, few PSSs—operating or proposed—can do it.

A potential exception is Dow Chemical's opportunity identification and problem-solving support system, currently being designed by Santa Fe Interactive. If successful, the system will support quality teams in all phases of problem identification and solution.

If employees are fully competent or expert, attempting to support their performance with a PSS that works in the first or second mode will almost certainly result in failure. That's why expert systems, which operate in the first mode, have had such low acceptance among professionals and other highly skilled performers. On the other hand, expecting neophytes to perform effectively when supported by PSSs that provide help only when requested (the fourth mode) also invites failure.

The second question is more difficult, but it goes hand-in-glove with the first one. Is the PSS expected to help develop the human performer?

If the interaction remains in the first or second mode, the employee may never become particularly competent. Development isn't an issue. That sounds attractive in one sense, because it enables a firm to employ workers with low levels of skills and qualifications. But as many companies learned in the 1980's, global competition is difficult with a base of low-skilled, relatively inflexible workers. It's not at all clear to what extent PSSs can compensate for human skills in such a situation.

A second alternative is a PSS that continually develops its human partners. Such a PSS is far more difficult to design and build than is a system that requires little of the employees who use it. On the other hand, such a system helps create performers who are more skillful, more flexible, and ultimately worth considerably more to the firm. A system that helps develop employees would no doubt appeal to many HRD professionals, but its benefits may not be compelling enough to move firms away from a 30-year paradigm of machine control.

There's a third alternative, one that has scarcely been explored. PSSs, by taking over certain tasks, can actually change the nature of jobs themselves.

For example, bar-code readers are hardly PSSs, but they do have some of the same characteristics as machine-controlled PSS interfaces. They de-skill the positions of store clerks and supermarket checkers, who no longer have to know how to enter price data into cash registers. Most stores let it go at that.

There is another perspective. Checkers and clerks who use bar-code readers no longer have to concentrate

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on purchases. That frees them to concentrate on purchasers. They can become true frontline customer-service representatives, ensuring that customers are satisfied, helping customers when appropriate, and relaying problems to store managers. This represents a major shift in function, one that might pay off handsomely for a company. PSSs can enable the shift from manipulative or clerical tasks to interpersonal tasks.

When computers and human performers operate as a true team, they support each other as members of effective teams do. In such cases, both of the questions above are automatically answered:

- The employees perform to the limits of their capabilities.
- The computer and the human members of the team help develop each other.

Of course, that sounds utopian; it certainly won't happen often. But the technology won't be what prevents it from happening. We have all the technology we need to create human/computer teams. So what will stand in our way? Our own mindsets.

Why Are You Just Sitting There?

Many of us have been watching computer technology closely for years, waiting for it to mature enough so that it can meaningfully support human performance. Now it has. The average desktop computer has all of the capacity needed to serve as the base for effective PSSs.

Of course, we didn't always sit still while we were waiting for the technology to catch up to the dream. For example, I built a crude but recognizable and reasonably effective PSS in 1970—using a batch-processing mainframe computer fueled by punch cards. And the mainframe, an IBM 1410, had much less capability than an XT—already an obsolete personal computer by any standard.

The challenges today aren't hardware problems. They're not primarily software problems, either—though PSSs will be much easier to develop as authoring languages are created for that purpose over the next few years. The real challenges are in the areas of analysis and design.

PSSs represent tremendous potential. The potential will be realized as their builders become skilled at identifying the tasks to be supported and the roles required to support the tasks. In many cases, the best solutions will be job redesigns, job aids, or better training—not PSSs. But increasingly, PSSs promise to provide one of the most cost-effective ways available to develop and support competence.

So, what are you waiting for?

EPSS—LOOK BEFORE YOU LEAP: SOME CAUTIONS ABOUT APPLICATIONS OF ELECTRONIC PERFORMANCE SUPPORT SYSTEMS

By Ruth Colvin Clark

Performance technology has gone high-tech with the introduction of automated performance support (APS). And with its own conference and book, it is getting a lot of attention. Gery suggests in fact that electronic performance-support systems are the solution to the inadequacies of current interventions—especially classroom training. She states that

> *...the focus must shift from rigidly defined content and training program structure created by an instructional designer, to truly individualized learning experiences created by the learner.... We must develop new learning, information-access, problem-structuring, and decision support models based on new technological alternatives (p. 30).*

Early advocacy of any new intervention requires some overstatement. Yet that same overstatement can create false expectations and lead down the all-too common path of early enthusiasm, ineffective or uneven adoption, little or no evaluation of cost benefit, waning interest, and finally disillusionment and abandonment. Yet as with most new interventions, there are some real benefits to be realized given thoughtful consideration and evaluation of how and when to use it.

What Is Automated Performance Support?

APS is not a single intervention and it is somewhat misleading to lump such a diverse set of support tools under one umbrella. APS is an assemblage of interventions all of which are:

1. Delivered on a computer,
2. Designed to help workers complete job tasks, and
3. Provided to the worker *on the job at the moment of need.*

For example, suppose Susie, a new software salesperson, gets a customer inquiry about software product Mega release 35. Given the multitude of products, product releases, differences in features, and customer requirements, there is no way Susie can keep this infor-

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mation in her head. Under current conditions she can find the manual on Mega products, turn to release 35, and scan for some related information embedded among paragraphs of highly technical specifications.

But with an automated support tool, she can click on a button keyed either to the software or to the nature of the inquiry (whichever makes more sense), click on a few submenus, and find not only clearly related information, but also advice on what to ask the customer to encourage further sales discussion. This works so well that now the customer wants to place an order. Susie clicks on the customer order software button and asks for help. Along with the order screen she gets a window that prompts her through each field to complete the order. She gets stuck on field 34 and can branch to either a demonstration or interactive training about that part of the order.

In EPSS Gery has provided a stimulating and tempting range of case examples. These can serve as effective catalysts to use technology both to deliver tried and proven performance support, e.g., job aids, and to test new interventions in the form of advice or decision support. However, Gery makes several assertions and assumptions that, in my opinion, are unwarranted and could lead to ineffective applications of a promising set of performance tools. In this article I will comment on the following five premises/assertions Gery gives for EPSS.

1. Learning is best accomplished during job performance by the provision of small task-oriented training "granules."
2. Workers are the most qualified to take control of their learning process, e.g., they know best what they need.
3. The assignment of performance-support tools is straightforward and can be determined by surface evaluation of the task and audience.
4. The potential de-skilling effect of some automated performance-support applications that serve as cognitive replacements could impair future contributions to the organization and negatively affect job motivation.
5. The problems in current training are best resolved by abandoning its current form and replacing it with a new paradigm with magnitudes of technological complexity greater than those of current interventions.

I will look at each of these to encourage a more critical and thoughtful look at the appropriate uses for automated performance support by human resource professionals.

1. Learning Occurs Best During Job Performance by Provision of Training "Granules."

Gery makes some valid criticism about the ineffectiveness of much current training because of its removal from real job skills and tasks. It is true that classroom training has often deteriorated into abstract lectures on guidelines and principles unrelated to the job environment. Transfer is minimal and business return is not realized. Her solution is to abandon the current classroom paradigm and integrate training into the job in the form of discrete "granules" tied to specific job tasks. These granules are accessed by the users when they have problems completing a task, e.g., when Susie had difficulty completing field 35 on the order form. There are several problems with this solution from both an instructional and a practical perspective.

A. Novices need a wholistic schema—granules will create a fragmented knowledge base.

Cognitive principles indicate that knowledge is a constructive integration of new facts and concepts into existing schemata in long-term memory. One of the early cognitive interventions, the advance organizer, demonstrated the necessity of providing the novice with an initial high-level overview of the content to provide a scaffold on which to hang the details of the training. An essential design strategy of virtually all training programs is to first provide the big picture, e.g., the system overview, the high-level flow of transactions, or the four types of customer inquiries, before getting into procedural details. The danger in breaking training into small fragments and integrating them with individual job tasks will be the failure to build a unified picture of the job, its conceptual knowledge, and how individual tasks fit into the big picture.

B. Workers needing to respond dynamically to job demands will not take the time to engage the training support.

We've seen this problem with current CBT programs. When training is left to employees to access at their work stations, it just does not get used unless there is special external support. Even with management support, many work environments are filled with interruptions or environmental noise, making the concentration required for learning impossible. Even in classroom training, instructors note that off-site sessions are preferable to the workplace, where interruptions often prove distracting.

C. Many tasks require quick responses to be effective—this will prevent the use of training and sometimes even procedural job aids.

Many tasks, such as taking an accurate customer order, or answering a customer inquiry about his or her line of credit, do not provide the time for the worker to figure out what to do or what to say while the customer waits. Likewise, tasks of high criticality, such as signal analysis by train drivers, require an immediate response. Drivers must instantly decode the signal meaning and respond within fractions of a second. A job aid—automated or not—will not work.

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2. "Learners Will Learn in the Most Efficient and Effective Way for Them Personally."

Gery has long advocated learner control both in tradi-nal CBT and now in the delivery of training in the tomated support environment. She indicates that the tion of instructional designers as professionals who now better" than the learner what the learner needs is fallacy (p. 19). Thus with automated performance pport, the learners are best left to themselves to select type of training needed, how much training is needed, d when to access it.

If this premise were true, it would make training much sier. In fact, there are clear and consistent research data dicating that *learner control is not as effective as structional control* (Milheim & Martin, 1991). Left to ir own devices, learners are unable to make appropri- decisions about what knowledge and skills they need, w much practice is necessary, or in what sequence to kle a large database of information. In fact, there is ne evidence that indicates that learners will often make t the opposite choice that they should (Clark, 1982). r example, given the option to work between 1 and 10 actice problems, good learners tend to work all 10 ether needed or not; poor learners tend to work only 1 2.

There is one major exception to ineffectiveness of mer control. Learners who have considerable back-ound in the skills to be acquired *do have* an adequate sis to make effective decisions about what additional ormation they may need relative to a particular job k. Thus, we can conclude that workers experienced in ir jobs will learn effectively under conditions of high mer control; for novices, however, instructional con-l is much more efficient and effective.

3. Automated Performance Tools Will Improve Performance.

There is an implied assumption that the use of perfor-nce tools such as spreadsheets, CASE software, and rd-processing packages will universally result in im-oved productivity. There is little research on the impact automated tools on performance. One recent study by bert Kozma (1991) showed that performance out-mes were actually better with *no tool use than when ng an automated tool.* Kozma compared the impact of ools on the writing performance of novice and expert ters. All writers used a word processor. The tools he npared were the use of an outliner, an automated ex-card "organizer," and an advisor containing a se-s of questions related to the topic, the audience, and the ter's goals offered for consideration during the com-sition process. Judges, unaware of the tool use or level expertise of the writer, evaluated articles created by all ticipants. Different tools worked differently for nov-s and experts. The best tool combination for expert ters was the use of the organizer and advisor. How-ever, these same tools used by novices actually resulted in poorer articles than those written by the novices who used no tools at all. The lesson: the relationship between tool use and performance outcomes is not necessarily straightforward and cannot be assessed on surface evaluation of the task or face validity of the tool-task interface.

4. Cognitive Replacements May Result in De-skilling.

Salomon (1991) has written a provocative discussion on the cognitive effects of intelligent partnerships with automation. He distinguishes between "machines" that are interventions that replace human cognition and "tools" that require partnership with human cognition. Reliance on machines such as automated pilots, expert systems, and/or diagnostic advisors will transfer task performance from human to computer and thus "numb" human skills. While this may offer a cost-effective performance boost (or it may not, as discussed above), the long-term result is de-skilling of the worker. If the de-skilling effect is in a domain critical to the business, how will the ongoing development of expertise continue? And what will be the motivational effect on the worker who relegates thinking and decision-making to automation? These are not easy questions, but they need to be raised when considering the use of performance-support interventions that replace human decision-making.

5. The Solution to the Deficiencies of Low-Tech Interventions Is to Throw More Complex Technology at It.

Gery has accurately shown that the ineffectiveness of much current training delivered either in the classroom or on CBT is due primarily to job-transfer failure. Her solution, to abandon this paradigm in favor of automated performance support, may be ill advised. Consider the complexity of multifunctional EPSS. In Chapter 7 of EPSS Gery summarizes 16 distinct roles, each with unique sets of knowledge and skills required to make automated performance-support happen. In Chapter 9 she describes five classes of software tools plus programming environments that could be selected and hopefully integrated to build multifunctional automated performance-support systems. In addition, the detailed analysis of audience-task interface is needed to determine what type of intervention, e.g., expert system, hyper-reference system, and/or advice, is most appropriate. There are few guidelines given for this critical decision. And, as discussed above, the interfaces between user, tool, and outcomes are not straightforward. In the last chapter Gery warns us that the EPSS ride is not for the faint of heart who need absolute certainty about what to do or how to do it.

Those of us who have worked on the development of much simpler systems, e.g., paper-based classroom training materials or straightforward CBT tutorials, have encountered resistance to getting the resource commit-

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ment required to build a quality intervention. Is there likely to be greater success when you up the technological complexity by a factor of 100?

Perhaps, rather than abandon the existing paradigm, an alternative approach would be to remedy existing training and performance-support interventions by applying many of the same guidelines Gery advocates for design of automated performance-support systems. These include:

- Basing interventions on clear business ROI, e.g., directly tie the training to the skills and knowledge related to effective job performance,
- Identifying key sponsors,
- Clearly defining project roles and activities, and
- Monitoring and identifying project activities.

I would add to her list planning interventions either as an automated extension of existing proven support interventions, e.g., job aids, or on the basis of cognitive research guidelines of how humans learn and think.

Gery has written a stimulating book on application of automated performance-support systems to improve employee performance. Her suggestion that these systems should largely replace current classroom training and stand-alone CBT is, in my opinion, not justified in either practical or theoretical terms. I hope this article will stimulate thought and dialogue about when and where to effectively use new technology to improve human performance.

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I. TELETRAINING

OFF THE ROAD AGAIN: TRAINING THROUGH TELECONFERENCING

by David Sheridan

The crew of the Starship Enterprise brought teleconferencing to primetime perfection 20 years before a remotely comparable commercial technology arrived. We thrilled as Kirk gave orders, bluffed through tense situations with the Klingons and generally interacted with beings in different solar systems as if they were seated next to him on the bridge. What power, we thought, as Kirk maneuvered the universe through his "real time," two-way television screen.

Science fiction scenarios aside, what used to be entertainment is now reality. Teleconferencing is an increasingly affordable technology that can help fulfill a trainer's fantasy: delivering interactive training programs to a widely scattered audience through audio, video or audio/video linkage.

Ken Steele, management development supervisor for United Telephone System's Midwest Group in Overland Park, KS, says two-way video teleconferencing has become essential to his company's training efforts. "We've got rural markets from Minnesota to Texas and Missouri to Montana, so videoconferencing is one of the most effective ways of educating people while allowing them to stay on-site," he says. Steele also insists that videoconferencing helps him respond more quickly to new training needs. It ensures the same message is communicated every time and is often less expensive than sending a "live" instructor.

"I'm also seeing great benefits from the interactivity," he says. "It brings people together from different locations, disciplines and corporate cultures, which often pays off with creative suggestions and solutions."

George Eyster, director of regional development services for Morehead State University in Morehead, KY, observes that "teleconferencing helps break down geographical barriers." The university, and Eyster's department in particular, are part of Kentucky Educational Television which provides the gamut of videoconferencing options, from basic classes to regional conferences.

"Because we're in a rural area, teleconferencing is the only economical way to connect people with training and information sources," he says. At present, the system is used primarily for continuing education of nurses and

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doctors who work in a campus-based hospital. "Videoconferencing is particularly important for health care providers in smaller rural hospitals who find it expensive or difficult to travel for license maintenance exams," he says.

Technically Speaking

What trainers need to know about teleconferencing theory is fairly straightforward. An originating site (corporate headquarters or a broadcast studio, for example) sends an audio, video or audio/video signal up to a satellite (hence the term "up link") or through digital phone lines to one or more locations. These are often called "downlinks," even when no satellite is involved. The remote stations can be located anywhere the receiving technology can be installed. Each receiving site channels the signal into a coder/decoder unit called a "codec," which processes the signal and then sends it to the audience through speakers or video monitors.

For fully interactive videoconferencing in which everyone can see and speak to everyone else, a multi-point control unit is needed to automatically switch the video signals to the current speaker's location.

If the transmission is going to several locations, satellites may be the only option. Since the signal is bounced into outer space and back to earth, there is no additional cost for long distances. And even the most rural locations, which may not have digital phone lines, can easily receive the signal. In addition to the gear needed for any transmission, this option requires an antenna at each location to send or receive the signal, as well as a modem at each location to descramble the satellite signal.

Videoconferencing's version of a blackboard or overhead projector is the overhead camera, which can project clear images as small as two inches onto a screen or monitor. That's small enough to show the inside of a carburetor or the most minute steps in an angioplasty procedure.

Signal bandwidth is the primary determinant of video quality. The broader the bandwidth, measured in kilobits per second (Kbps), the sharper the resolution, and the more lifelike the motion of people or graphics on the screen. The generally acknowledged boundary between

VIDEOCONFERENCING GLOSSARY

Ad hoc network: a temporary national or regional linkage of receiving stations.
Analog: high-quality signals sent in waves that may be disrupted by microwaves or atmospheric disturbances.
Antenna: the equipment that sends to or receives audio and video signals from satellites.
Bandwidth: the frequency range over which a transmission facility can broadcast. Better video quality comes from broader bandwidths. Audio-only transmissions typically use narrower bandwidths.
Bridge: a unit that links three or more phone lines together for audioconferencing or for the audio component of a videoconference.
Closed-circuit microwave: land-based, point-to-point television transmission system; not for public broadcast or reception.
Dedicated systems: permanent equipment, circuitry and facilities that are regularly used for videoconferencing (as opposed to renting equipment for a one-time or ad hoc event).
Digital: compressed and "digitized" analog signals; because they incorporate less information than analog signals, they are less open to interference.
Director: the person responsible for producing the actual "show." Some people (see producer) think the buck should stop here, but it doesn't.
Downlink: the earth station that receives a signal; can be permanently attached to a facility or mobile (truck-based) unit.
Earth station: general term for all the earth-bound equipment needed to send or receive satellite signals.
Encryption: scrambling a satellite signal to prevent unauthorized reception and use.
Field: half a video frame (two fields equal one frame or a full screen).
Footprint: the area a satellite signal covers on earth.
Frame store: the sophisticated slide projector used to insert preproduced "still" materials—graphs, for example—into a "live" production.
Full-motion video: standard video signal that's capable of complete action.
Fully interactive audio/video: two-way unrestricted audio/video interaction capability between two or more sites.
Loop: the line from the telephone company to the site of the videoconference that allows people to "call in" questions to the broadcast site.
Preproduction: the initial phase of a videoconference or teletraining event, including planning, research and script writing.
Producer: the person with overall responsibility for the videoconference, from budget to content. Literally and figuratively, the buck stops here (see director).
Transponder: a single receive/transmit system on a communications satellite. At a downlink, you must know the correct transponder to "tune in" to get your teleconferencing signal.
Uplink: the part of a satellite communications system that sends signals from earth up to the satellite.—D.S.

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"high" and "low" resolution is 384 Kbps. Below that, on-camera motion can be noticeably stilted, similar to an instant replay that's moved slowly or frame-by-frame while a sports announcer analyzes a winning play or a questionable call.

Less Money, More Choices

Videoconferencing is just the latest addition to the varied field of teleconferencing, which basically includes any form of conferencing involving telecommunications. At the low end of the technology spectrum is

PAY VIDEO CALLS

The cost to place a video "call" depends on a multitude of variables, from such simple things as the size of the screens you'll be using and the number of locations, to more complicated questions involving the quality of transmission needed and whether the call will be fully interactive in video or only one-way.

"Costs have come down in a number of ways in the last 10 years," says Tracy Beaufort of Compression Labs, a video communications supplier in San Jose, CA. "Likewise, the availability of services has increased to the point that most major cities offer a wide range of options."

For in-room equipment—video cameras, monitors, codecs, multi-point controls and audio systems—several options are open. If you go to an outside, public location and rent equipment, expect a minimum room charge of $75 per half hour that should include all equipment needs. This rate can go as high as $200 per half hour for fully interactive video conferencing between several sites; transmission costs are additional charges. Likewise, equipment can be leased. AT&T, for example, offers fully interactive videoconferencing equipment for $5,000 to $7,000 per year (for each location).

If demand makes it worth investing in your own system, that's become more affordable, too. Beaufort estimates that the hardware for a fully interactive system permanently set up between two locations would cost about $115,000. Because a multi-point control unit is needed for additional sites, the minimum cost to set up three sites with a fully interactive system would be about $240,000. She breaks it out as follows:

- Monitors, cameras, audio systems and controls for each room: $25,000
- Codec/phone line interfaces for each location: $31,500
- Multi-point control unit: $75,000.

In addition, modular systems that can be rolled from room to room are available for $25,000 to $45,000, while suitcase-sized models start as low as $37,000. Both of these can make your videoconferencing options more flexible for little additional cost.

TRANSMISSION COSTS

With in-room equipment secured, the next major decision is transmission options—whether to use the phone lines, a digital satellite system or an analog satellite system. "Transmission services have seen the most dramatic reduction in prices in the last 10 years," Beaufort says. "Ten years ago, what might have cost $1,000 now costs $150 to $200."

For example, the highest-quality presentation between two U.S. locations—using U.S. Sprint or AT&T's telephone line networks—costs $175 to $350 per hour, depending on the distance between sites. That same conference, using lower quality transmission, may cost as little as $60 per hour.

Although digital telephone networks increasingly cover the United States, satellites are nearly mandatory for reaching remote or multinational locations—with a portable receiving dish, videoconferencing can go virtually anywhere in the world. In addition, satellite charges usually don't increase dramatically with additional locations, while cable services add the cost of another separate call for each location.

Consequently, if the system sees a great deal of use, the higher up-front investment for a digital satellite system as opposed to using the phone lines is quickly repaid. Each location needs an antenna (cost: $40,000 each), but satellite time then runs about $4 per minute. If locations need to be added for one-time use, the antenna and other equipment usually can be rented for about $2,000. And because the antenna is permanently tuned to the satellite, there are no intermediary charges. At up to $2,000 per hour for each location, digital satellite equipment is expensive to rent. For infrequent videoconferencing, many companies choose to go to a studio that provides analog satellite transmissions at a total cost of $2,000 to $3,000 per hour. This option gains the benefit of higher quality transmission.

"I think we will continue to see prices falling for several years," Beaufort adds. "The technology is just beginning to take hold."—D.S.

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udioconferencing, a two-way voice link with no video upport—in essence a sophisticated telephone conference call. Audiographics conferencing combines audio inkups with accompanying graphics: Using the digital elephone lines, participants can all talk to one another but ney see only prearranged still or video material from a tandard television monitor. And computer conferencing nks participants terminal-to-terminal to allow data and nessage transfers. Of the various forms and levels of eleconferencing, however, full videoconferencing is the ne that offers trainers the most creativity—and power ecause it offers real-time, two-way audio and video ommunication from multiple sites. It's what Captain irk took for granted.

As with much of today's rapidly changing communiations technology, prices for all teleconferencing avnues have dropped, making them more affordable for any training departments. But options have also increased, making it difficult to decide which direction to ke (see sidebar on p. 4.47).

Within videoconferencing, for example, several opons exist:

- *T1 transmission* offers clear, complete motion reproduction by sending compressed digital signals and comes closest to what we see on "Star Trek." When accompanied by two-way audio, it allows people at both the originating and receiving sites to interact completely.
- *Business television* is a two-way audio, one-way video variation for groups at multiple sites: Participants at receiving sites can see and hear speakers at the originating site, but the originating site can't see them; interaction is through audio response only. Either digital or analog signals can be used. (Analog signals are what we receive on our home televisions, actual waves that are subject to disruption from such sources as microwaves and atmospheric disturbances. Digital signals are compressed and "digitized" analog signals, offering less clarity but little problem with interference.)
- *Sub T1 transmission* provides limited motion through compressed analog television signals.
- *Freeze-frame formats* use video, but only in still images.

For greater flexibility and economy, most companies and organizations tend to design multipurpose facilities that support audioconferencing and audiographics, for example, as well as videoconferencing.

Cray Research, based in Eagan, MN, with manufacturing and development facilities 90 miles east in Chippewa Falls, WI, has state-of-the-art, fully interactive teleconferencing equipment that is used extensively for meetings between the two locations. In addition, however, the Chippewa Falls location has a separate room and equipment dedicated to live one-way video/two-way audio engineering classes from the University of Minnesota's Institute of Technology in Minneapolis. "It's the most effective way for us to bring graduate-level training to our out-of-state office," says Juli Ahneman, one of six training administrators at Cray Research's Chippewa Falls facility.

Similarly, Sandy Carpenter, director of education for the Los Robles Regional Medical Center in Thousand Oaks, CA, has a standard satellite downlink that serves 12 departments in the facility. "We purchase training and

TDY 93/94

CASE STUDY: TELECONFERENCING AT PACIFIC BELL

Source: "Technology, Good Client Relations Help Training to Thrive," by Randall Johnson, *Training Directors' Forum Newsletter*, May 1992, p. 5

At Pacific Bell, an increasing number of technical classes are being taught by teleconferencing, using a one-way video, two-way audio connection between instructor and students. The 100 classes offered are attended by an average of 100 students each, for a total of 10% to 15% of the company's training hours. The author observes that teleconferencing cuts costs, since an instructor does not have to travel to train small groups of people. The synergism of the system, connecting as many as 100 technicians, sometimes helps solve vexing problems through mutual interchange of suggestions. "It was like a 100-way telephone call," says one of the participants. Certain hands-on types of training are not appropriate for the medium, the author says, though most courses adapt readily. Experience has shown that 2 to 4-hour courses are best for this medium, as full-day programs tend not to hold students' attention. Pacific Bell transmits via its own fiber network. The author notes, however, that satellite and microwave technologies are being used elsewhere. Pacific Bell hopes to provide up to 30% of the company's training through this medium in the future. (AN119)

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informational programs from Health Sciences Network and the American Hospital Association, which is all we really need," she says, adding that she has no plans to upgrade or otherwise change the system in the immediate future.

Lights! Camera! Training!

Quite often these days, training is only one of the reasons for investing in teleconferencing. Instantaneous top management communication, multisite project management and even data transfer play just as important a role in the decision to purchase a system. In fact, many trainers who wouldn't ordinarily have the budget to adopt the technology on their own have been able to piggyback on a broader corporate investment.

That's the case with AmSouth Bank in Birmingham, AL, according to training director Sonya Henderson. "Our system was installed mainly to meet the communications needs of top management," she says, "but we're

MAKE YOUR CONFERENCE A DREAM, NOT A NIGHTMARE

Like any technology, there's nothing magic about teleconferencing. But it does take some special expertise and practice before everyone involved is comfortable. These tactics can help smooth your introduction:

- Hire *a consultant* to help you determine your teleconferencing needs and recommend which equipment to purchase. "Even though it's now possible to buy turnkey systems, have an expert make that decision for you," says Rick Nelson, teleconferencing supervisor for AmSouth Bank in Birmingham, AL. He notes that some vendors promise video conferencing systems at a cost of no more than $50,000 per site. With typical full-spectrum systems averaging about twice that figure, however, it's best to have a consultant determine exactly what you'll need.
- *Make sure trainers are familiar* with the conferencing technology before they start training. "Most people are uncomfortable the first time they use videoconferencing," says Pam Landers, telecommunications coordinator for the Heartland Interactive Television Consortium in Brainerd, MN. "It's like driving a manual transmission for the first time; they just need to use it for a while before it becomes second nature." Put trainers through some "test drives" before they alienate audiences and tarnish the image of the new training investment. She says that instructors who like to interact with students usually do well; those who simply lecture are in danger of losing off-site students quickly.
- *Staff appropriately.* Landers believes four levels of staffing are required to run a high-use, multisite system property:
- An overall programming coordinator, who decides which classes are sent to whom, and when they will be sent.
- A scheduling supervisor, who has daily responsibility for maintaining a master calendar and responding to information requests. (Landers says this can usually be handled by an administrative assistant once the system is in place.)
- A master technician on each site to perform or supervise troubleshooting and maintenance.
- A site operations person, who turns the system on and off, adjusts mike levels, checks for audio and video problems and assists new users.
- *Design or alter courses* to be as interactive as possible in each session. Students lose interest even more quickly when faced with a video talking head than with a live one.
- *Preview all audiovisual and graphics components* of the presentation. "Guest speakers have been known to arrive at the last minute with copyrighted videos that can't be used or with materials of embarrassingly poor quality," cautions Landers.
- *Be sure your training message is clear and concise.* "Satellite time is expensive, so get to the point and get off the air," says Ken Steele, management development supervisor for the Midwest Group of United Telephone System in Overland Park, KS. "My rule of thumb is to determine what's nice to know and what people really ought to know—and stick with the latter."
- Plan ahead (part 1): Make sure training materials arrive at the remote sites on time, and have someone responsible for returning them to you quickly.
- Plan ahead (part 2): Have a way to offer the class to people who miss the videoconference. "We try to offer another time slot if the session is highly interactive, and always videotape the class for people to review," says United's Steele.
- Plan ahead (part 3): Always have a backup plan in case the system fails. The technology is reliable, but Murphy's law is alive and well in the '90s.—D.S.

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also expanding our training programs to include videoconferencing." Currently, that includes plans for time-management and conflict-management classes.

"Top management use means the system is kept state-of-the-art," adds Rick Nelson, AmSouth teleconferencing supervisor. Its cost as a training medium is offset by its other uses for data transfer and daily communications. "We've recently upgraded it for additional graphic capability, plus full duplex audio [as opposed to the one-speaker-at-a-time "walkie talkie" type transmission with simplex audio systems] that allows for completely normal, non-delayed speech," he explains.

Bank One Cleveland in Cleveland, OH, based its teleconferencing decision on the same multiuse capability. "Our operations analysis department looked into teleconferencing for three years before determining we finally had enough uses to justify the cost," says Judy Collister, a management development specialist. Because Bank One is an affiliate of a large holding company, top management required instantaneous communication with other corporate affiliates. Training was a close second on the list of rationales, she adds.

Collister is currently distributing a training needs assessment to area managers to determine what training programs are needed and which would be appropriate for videoconferencing. "We see videoconferencing helping us with professional development, performance planning, and management and job-skills programs," she says. Another use will be to introduce new products and services to employees."

Bank One has two originating sites—the corporate headquarters and a new operations site about an hour away. Programs can originate from either facility. "We've got over 50 branch offices in a 120-mile radius, and they're just too small to justify equipping each one, so we'll bring employees to one of the two main sites," Collister explains.

Teleconferencing systems that have training and education as their primary purpose are also common, however. United Telephone's system is used primarily for technical and management training. According to Steele, technical training sessions typically combine videoconferencing classes with hands-on experience at the worksite to ensure that trainees understand the applications covered. He says a videoconference follow-up to a management assessment program also produced good results.

"The follow-up session was only three hours long, so it made sense to set up an open-forum conference for feedback and question-and-answer time," he says. He reached his training goals and also saved video satellite time by making the session just one-way video (managers could see the instructor, but not vice versa). Because the audio link was two-way, the entire group could still talk freely.

At present, United Telephone doesn't have downlinks for all of its service centers; participants in non-equipped locations use local hotels or vendors with reception and playback capability. But based on experiences to date and the needs of a widely scattered work force, the company is planning to expand its teleconferencing training capability significantly over the next several years, Steele says. "Right now, just 2.5 percent of our training is accomplished by means other than traditional classroom settings," he notes. "By 1995, 30 percent will be nontraditional, and most of that will be teleconferencing."

Teleconferencing Delivers

The U.S. Postal Service also emphasizes training applications with its video conferencing capabilities. "Our system is used 90 percent for training, primarily in maintenance areas," says Kenneth Redheffer, a Postal

TDY 93/94 CASE STUDY: U.S. ARMY TELECONFERENCING

Source: "TNET & OSU: A Partnership for Military Training," by Conrad McHugh, *Teleconference*, May-June 1992, pp. 32-38

In conjunction with Oklahoma State University's Institute for Telecommunications, the U.S. Army has developed a teleconferencing network, TNET, to support Army training programs nationwide. The TNET Network has been in operation since November 1990, says the author, and by mid-1992, it will include 58 teletraining sites. Classroom equipment includes a modular cabinet containing two 35" TV monitors, a TV camera, a full-duplex audio system, and a codec. Outdoor equipment includes a very small aperture terminal satellite dish. The army has found the system attractive, states the author, as they have tried to cut costs following budget constraints accompanying the end of the Cold War. Pilot testing using the Army's Common Leader Training program found that test scores "were as good as if not better than traditional test scores." Another use of the system was Arabic language training during Operation Desert Shield. (AN120)

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Service training supervisor in Roanoke, VA. A recent addition to the training curriculum is management classes on various subjects such as financial liability for postmasters. For an estimated investment of $10,000 to $12,000, Redheffer's office has built separate de-coders and satellite downlinks into two training rooms.

"Saving on travel costs was our biggest reason for purchasing the system," he says. "Most of our maintenance training meant sending people to our national technical training center in Norman, OK." Because the classes have an average length of four to eight weeks and can run as long as 16 weeks, "what we save on flight costs and per diems alone justifies the investment in videoconferencing."

Economy is only one benefit the Postal Service enjoys, however. "Based on both exams and practical experience, there's nothing to suggest that training quality has suffered in the switch to videoconferencing," Redheffer says. Typically, for example, the maintenance classes are augmented by hands-on labs, keeping the exam failure rate extremely low. And while people in Norman often have to wait in line to use the machinery during lab exercises, on-site labs often move much quicker, because there are fewer people involved.

More and more management classes are being "pulled down" from the satellites because of another numbers game, according to Redheffer. "The Postal Service Management Academy is now being used for only high-level management classes," he explains, "so most of the basic management courses are taught through video conferencing."

The Good and Bad

The good news is that the full range of teleconferencing technology is here, and it may not break your training budget—especially if you take care to buy only what you need and attempt to piggyback other communications functions like data or message transfers on the videoconferencing system.

As always, however, there are some negatives. Fixed and satellite transmission costs can be quite high, depending on the length and complexity of your training. The technology can break down—and when it does, you're down until it's fixed. You may need more staffing than you expect to maintain and use larger systems. And your current training programs may need some overhauling to be effective, especially in a video format.

But teleconferencing is here to stay. And when all is said and done, it can indeed make a trainer's fantasy come true.

TV TRAINING TIPS

by Steven Shepard

More and more HRD professionals are finding themselves out of the classroom and in front of the camera. It's a new medium for many, but televised instruction doesn't have to be an ordeal. These 12 tips can ease your transition into TV training.

As large corporations look for better bottom lines, training organizations are investigating alternative instructional media that are less expensive than traditional delivery methods, yet still deliver timely and effective courseware.

Many companies use such conventional techniques as computer-based training, interactive video, and self-paced workbooks. But a growing number of HRD professionals are turning to live television instruction, often called distance learning.

Distance learning allows students at multiple remote sites to interact with an instructor on a real-time basis, via a telephone hookup or dedicated audio link. It works well in situations in which the student population is large and so geographically dispersed that savings in travel and lodging can offset the expense of the medium.

Television is not a particularly easy medium to teach in, but it doesn't have to be a grueling ordeal, either. Having completed the televised delivery of a (surprisingly painless) two-day course in data communication protocols, I'd like to dispel some myths and share some of the insights I gained in the process.

Before the Broadcast

Rehearse, rehearse, rehearse. Then rehearse some more. Once you feel really comfortable and ready for the show, rehearse some more.

There's no such thing as too much preparation, although heavy rehearsal the day before a broadcast can be overwhelming. Use that day to go over studio procedures. Work with the director and studio staff to review the things that are important to them: hand signals, television methodology, and logistics. The better you know their requirements and the closer you follow their instructions, the better your production will be.

Watch others. Take time to watch professional broadcasters on television. Experienced lecturers on edu-

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ational programs and commercial broadcasters can lend remendous insights into such things as mannerisms and ctions that are (and are not) effective on television. Vatch what they do with their hands, listen to the cadence f their speech, and pay close attention to general body nguage. What do they do that you find appealing? Vhat do they do that irritates you?

Take care of yourself the week before the broadcast. elevised instruction demands a deceptively large amount f emotional and physical energy, so prepare your body r the ordeal.

Eat light, healthy foods—fish, chicken, and a lot of uit and vegetables. Minimize alcohol consumption (don't ll prey to the misconception that it will help you relax the days before the broadcast). Get moderate exercise nd plenty of sleep.

This is a good time to be selfish. Explain to your mily, bosses, and colleagues that you won't be avail- ble to them the week before the telecast. Self-indulgence n't a luxury at this stage of the game—it's a necessity.

rust the director. Put absolute faith in your director. he director's job is to worry about the logistics of the levision show so that you won't have to. That leaves ou free to concern yourself with your material.

I was extremely lucky. My director was a consum- ate professional. While we prepared for the broadcast, belonged to her. Anyone who tried to get near me for ything that didn't have to do with the broadcast was in anger of losing ears and fingers.

She took care of everything that had to do with the edium itself, and in fact shooed me away from the roduction end whenever possible. Television produc- on is fascinating, and most people have a natural desire get wrapped up in it. She gave me a little time to be arry-eyed in the studio; when the fascination began to b, she prodded me back to work.

Don't be afraid to ask the director questions about the ow. A director probably won't know anything about our material, but 99 percent of the time, it's not neces- ary.

Occasionally a situation will arise in which the nature f the material will dictate a particular direction that ntradicts what the director wants to do. Don't be afraid make suggestions, but if your director is adamant, at's okay. Remember, the director's job is to make you ok good on-screen. Your job is to train. Period.

Pay close attention to the colors of your clothes. This an important consideration during television instruc- on. Colors don't look the same on TV as they do live, d some are not recommended. White shirts or blouses e definitely verboten. White tends to flare on a video amera; light to medium blue and tan or light brown are st. Avoid patterns: they can create a distracting moire ffect.

Similarly, single-color suits or dresses in dark shades e great—no plaids, no herringbones, and no bright patterns or pinstripes. The simpler the material, the better it—and you—will look on-screen.

Wear comfortable clothes and shoes. You will spend a considerable amount of time under hot lights, so light- weight clothing is best. And you will be on your feet for extended periods, so unless your particular production will show your feet, consider wearing sneakers.

Audience Issues

Arrange for site coordinators if you are broadcast- ing to multiple remote locations. Our coordinators re- ceive formal training on their responsibilities and regu- larly take care of the following:

- They ensure that textbooks and other classroom materials arrive on time and in sufficient quantity for the number of registered trainees.
- They set up the rooms.
- They arrive early on each day of a broadcast to ensure that audio and video signals are at their correct levels.
- They introduce themselves to the trainees and give them pre-class overviews that cover such issues as the medium, the telephone links, and what to do in case of trouble.
- They make themselves available to trainees during the day in case problems crop up.

In short, they handle another layer of responsibility so the instructor won't have to.

Decide if you want trainees in the studio. There are two schools of thought on having a live audience in the studio.

One says that trainees in the studio make the presenter more comfortable, because they provide eyes to focus on and an audience to react to the material.

The other camp says that the presence of trainees in the studio causes the instructor to have, in effect, two audi- ences. The natural tendency is for instructors to look at the live audience and ignore the camera. An instructor who does that risks alienating trainees at remote loca- tions.

Discuss the logistics of television with the trainees before you begin to teach. Explain the kinds of teaching techniques they can expect. Cover the technology in- volved: how to call with a question, how to restore a lost signal, whom to call with problems, and so forth. Put contact/trouble telephone numbers on the screen and ask students to write them down. (If you're lucky, one trainee at each location will actually do so.)

On with the Show

Be yourself. Let's face it, standing in front of a television camera for a live broadcast is at best stressful:

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at worst, it's downright terrifying. A strong mental resolve to keep things in perspective can help you get through it.

Try to remember that to the trainees, you are similar (but not identical) to any instructor they have had in the classroom. The delivery medium is different, but to them, making a mistake on TV is no different from making a mistake in front of a classroom—and we've all done that. It's not the end of the world.

One key difference between a televised instructor and a live one is that television gives instructors a presence that is grander than life. Everything you say will be taken with a little more credence, simply because you are saying it on television.

For this reason alone, it is imperative that television instructors work hard to appear natural and comfortable on the air and be willing to make mistakes. More important, effective television instructors are willing to say, "I don't know. I'll get back to you on that one." The medium works both ways: it can remove credibility with just as much force as it can deliver it.

Don't be afraid to use notes or an instructor's guide when you train on television. If that's the way you train most effectively, then by all means, train that way. This is just another class. If you regularly look down at notes when you teach, don't be afraid to do it on TV.

A word of advice: because of the exaggerated nature of television instruction, five seconds of reading notes on the desk may feel like 50 to you. But it won't feel that long to the trainees. Force yourself to take as much time as you need.

Again, the best way to look comfortable is to feel comfortable, and the best way to do that is to minimize activity that is unnatural for you.

Watch out for the "Larry King effect." That's what I call the reticence that many trainees have about calling a television instructor with a question. Many trainees are reluctant to ask a question of a classroom teacher, much less a TV instructor.

To minimize such reluctance, instructors can design their classes in such a way that students are ever-so-gently forced to interact via the audio link. For example, remote sites can be asked to work together for a few minutes on a group project. Then the instructor can ask students from each location to give feedback to the audience on their findings. This tends to make speakers feel they're not alone—they have teams behind them.

Other methods for encouraging interaction include impromptu questions directed at particular sites or at particular trainees at those sites. This can be a bit awkward if a question requires some thought, because the instructor might have to manage some "dead air" time while a student formulates the answer. The instructor also runs the risk of alienating the audience by putting a student on the spot and potentially on the defensive.

Play it by ear. Take the time to know your audience before and during the broadcast. The better you know your trainees, the better you will be able to assess the effectiveness of different techniques for overcoming their reluctance to contribute on the air.

Vary your presentation. Variety is everything. Even the best television shows and movies can get tiresome, and let's face it, technical training isn't a Bruce Willis flick. Hours in front of a television screen can result in eyestrain and a restless class. The endless drone of an instructor's voice can lull even the most dedicated student into a stupor.

To minimize the monotony, break up your presentation style as much as possible. Intersperse the sight of your face on the screen with short video segments. Use a video projector to show illustrations or draw pictures. Give the audience frequent breaks. Allow at least five minutes each hour, with longer breaks at mid-morning and mid-afternoon—and allow for off-air time, when you assign off-camera exercises.

Be creative. Have sites prepare exercise solutions and fax them to you in the studio, where you can put them up on the screen and share them with others. Encourage people at different sites to talk to each other and encourage students to talk to you.

Remember, variety increases your chances of having an attentive class. Avoid the "talking head" syndrome.

Use care with graphics. Follow these guidelines if you plan to project graphics over the network using a video pickup unit. The minimum type size should be 36 points, and all graphics should be printed on matte-finish paper—no gloss. Line art should be black and white, uncluttered, and simple.

Remember, the typical trainee will be watching the show on a 21-inch television set from a distance of at least 10 feet. Detailed pictures are a wasted effort. Instead, have multiple copies of each graphic and use a heavy, black felt-tip pen to enhance the drawing by hand as you speak to the illustration. This is an effective technique for gaining audience attention.

One last tip: check with the director as to whether graphics should be printed vertically or horizontally. Requirements differ among types of equipment.

Overcoming Culture Shock

Television can be an extremely effective delivery medium if the instructor is adequately prepared for the culture shock that usually accompanies a broadcast. Proper support from the television technical staff, absolute mastery of the material, and familiarity with the technology of the "electronic classroom" are essential.

Combine those necessary elements with the 12 suggestions described above, and you can count on a successful broadcast.

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CUSTOMER TRAINING THROUGH TELECONFERENCING

Source: "Customer Training," by Ari-Matti Auvinen, *Teleconference*, May-June 1992, pp. 20-24

This article discusses industrial customer training by means of teleconferencing. The author first enumerates 4 benefits of technology-based training (TBT) for customer training: (1) larger scale savings, (2) easier tailoring to the HRD practices of the customer, (3) assistance in product differentiation, and (4) a means of spreading training on a global scale. For another benefit, he notes the relation of TBT to Porter's value chain concept. Finally, he presents a matrix that compares company control over training content with the target audiences. For example, IBM exerts high control over its own customers, while some other companies purchase general programs to train their customers (low control). On the other hand, Ford's statistical process control training for suppliers illustrates high control with non-customers, while FESTO Didactic's training programs illustrate low control with non-customers. (AN121)

DISTANCE LEARNING

Source: "Getting a Perspective on Distance Learning," by Larry Stevens, *Data Training*, May-June 1992, pp. 12-15

A few years ago, this author reports, Hewlett Packard used distance learning to train thousands of employees on a set of new technologies—and did so in a quarter of the time it would normally have taken. In this article, the author examines the expanding use of distance learning by colleges and corporations. While many distance classes are still based on lectures or demonstrations, followed up with live sessions at the local level, some courses now allow for student responses to be faxed directly to the distance trainer for personal evaluation. Some are interactive, allowing 2-way communication between the student and the trainer. The author describes The Computer Channel, Inc. and its inexpensive, one-way system of communication, and he touches on future developments in distance training and the use of fiber optics. (AN122)

J. OTHER TRAINING TECHNOLOGIES

TDY 93/94 IN BRIEF

LCD PROJECTION PANELS

Source: *LCD Projection Panel Selection Guide*, by Joe Hallett, International Communications Industries Association, 1992, 61 pages, $20.00

This small book does not pretend to be a product-to-product comparison; for that, the author directs the reader to the Liquid Crystal Display (LCD) Panels Wall Chart published annually by the International Communications Industry Association. Rather, this book is designed to acquaint the reader with basic LCD technology and with design differences among various types of products. Later chapters serve as a user's guide to better LCD display panel presentations. Chapters include:

1. The Technical Side: How It Works
2. Identifying User Needs: Understanding the Application
3. Selecting the Right Product
4. Accessories and Special Features
5. Hints for More Effective Presentations
6. Horror Stories, Anecdotes, and Bizarre Tales
7. Evaluating Image Quality

The book contains 5 appendices: (1) Glossary of Technical Terms, (2) 10 Tips for Better Presentations, (3) Manufacturers of LCD Projection Panels, (4) Selected Computer Software for Interactive Presentations, and (5) Selected Publications. (AN123)

INTRODUCTION TO CD-ROM

Source: "CD-ROM: A Cost-Effective Alternative," by Shelly Geasler, *Instruction Delivery Systems*, January-February 1992, pp. 21-23

"For ten years," says the author, "training professionals have been searching for an effective and inexpensive delivery platform for computer-based training programs.... CD-ROM technology offers the alternative we've been waiting for." She describes the minimum hardware needed for CD-ROM: a 10 MHz+ IBM-compatible PC

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(80286 or above), standard or enhanced VGA graphics, CD-ROM drive and controller card, amplified speakers or headphones, and mouse. Each CD-ROM disc can store more than 600MB of data or 72 minutes of CD-DA (compact disc-digital audio) sound. Mixed-mode CD-ROMs offer a mix of audio, graphics, text, and computer program together. Since CD-ROM drives are standardized, a mixed-mode CD-ROM will play on any commercially available CD-ROM drive equipped with audio output. The author gives examples of mixed-mode titles, as well as audio-only CD-ROM. "The costs for developing CD-ROM-based multimedia programs are comparable to those for developing other types of multimedia applications," she says. Costs of some of the steps are: audio conversion, $375; checkdisc, $500; master disc, $1,400; and replications, about $2 per disc. (AN124)

AUDIO COMPUTER TAPE

Source: "Audio Computer Tapes (ACTs): An Effective Instructional Format for Software Training?" by Richard V. Zucco, *Educational Technology*, January 1992, pp. 31-32

The author describes a new approach for software training: Audio Computer Tape (ACT), developed by Integrated Applications, Inc. ACT combines on a single audio-cassette (a) a computer-terminal interaction that demonstrates a particular software application, and (b) audio narration of what is being demonstrated. Recording a stop mark causes the ACT machine to stop the tape at a designated spot in the lesson and puts the terminal online with the computer for practice. An ACT tape has 2 channels, one containing an analog recording of digital computer data, and the second a voice recording. The author describes the advantages of ACT: learner control, consistency, cost savings, and availability. Then he discusses the limitations of the technology: lack of flexibility and lack of instructor/peer group interaction. In addition, the author estimates development time at 200 hours per tape. He notes that certain training needs may be better met face-to-face. Moreover, ACT development requires professional production support and duplication must be made in real time from one ACT machine to another. (AN125)

A GROUP RESPONSE SYSTEM

Source: "Meetings Anonymous: IBM Does It with Computers," by Lisa Grimaldi, *Meetings & Conventions*, January 1992, pp. 100-102

This author suggests that trainers may find themselves as facilitators of "silent meetings," if IBM's *TeamFocus* software gains wide acceptance in corporate America. IBM developed the silent meeting to brainstorm and process ideas several years ago, but the company found it so successful—cutting the time of the average business meeting by 60%—that they have begun to market the computer program which the silent meeting is based on. The program, installed on a file server, links up to 24 desktop PCs. The typical meeting follows the sequence below:

1. During a brainstorming session, participants are given the topic to be "discussed" and are asked to type all their ideas into the computer.
2. The server collects and sorts the comments and sends them back to the participants so each can see what colleagues have written.
3. The facilitator and participants arrange these ideas into 10 to 15 categories.
4. Categories are then sent to participants who rank the categories in order of importance.
5. Finally the information and votes are printed out, eliminating the need for notetaking.

The power of the method seems to reside in: (1) allowing ideas to be shared without fear of reprisal and (2) saving time that would be taken up with socializing. However, computerphobia limits the enthusiasm of some top executives for this concept. (AN126)

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Section 5
Trainers and Trainees

Sometimes it may appear that the critical element of training is the technology—either the high-tech methods noted in Section 4 or the low-tech practices covered in Section 6. But techniques and technology are not the heart of training—all they do is mediate the communication between trainers and instructional designers on one side and trainees on the other. So one could argue that the most important part of the training process rests with the trainee who is learning and with the trainer who is teaching or facilitating (or with the designer who is planning and building the instructional intervention). The purpose of this section is to provide some perspective on the two sections it is sandwiched between by taking a closer look at the human element of training.

The first "human" we concern ourselves with is the professional trainer. The lead article looks at the issue of instructor evaluation and even includes an instrument for evaluating the instructor. What is distinctive about it, though, is that it is based on research into the specific instructor behaviors that foster learning. This article is supplemented with a group of abstracts that emphasize the standards of competence for the professional trainer.

The dichotomy implicit in the titles of the first two subsections ("The Professional Trainer" and "Non-Trainers in Training Roles") is not as clear as may appear. Non-trainers can range from managers or staff members conducting an occasional class, to subject-matter experts who are given training skills and serve lengthy stints as trainers. But don't we expect the latter to perform as "professional" trainers? The four organizations cited in "From Expert to Trainer" certainly do. This article shows how (and why) these organizations turn technical experts into effective trainers. And the abstracts in this subsection fill out the picture with resources on peer training, on training basics for supervisors, on techniques for coaching guest speakers at training sessions, and on what the line manager needs to know about HRD.

Turning from the trainer to the trainee, we first address the issue of "motivating trainees." In one of the most significant articles in this year's edition of TDY, Bob Mager explains the importance of "self-efficacy" to trainee motivation and performance. Another especially interesting article follows, pointing out "Eight Dangerous Assumptions About Listeners."

Each edition of TDY has concluded this section with a consideration of "Trainees with Special Needs." In the past this has meant women, adolescents, or older employees, and it has been interesting to note that there has seemed to be a flurry of articles about one special group or another. This past year the biggest flurry of such articles has addressed trainees with disabilities—not surprising in light of the fact that the Americans with Disabilities Act went into effect at midyear. We highlight an interesting survey of tools for accommodating the disabled, along with a case study and abstracts of several other articles. The other major "flurry" of articles had to do with the demands of the global economy and the necessity of providing training for people in different countries or with different cultural backgrounds. Our coverage of this subject focuses on the practical problem of arranging for the translation of training.

A. The Professional Trainer
- Promoting Teacher Behaviors That Promote Student Learning, *by Greg Clark, Roy Steele, Richard P. Niemiec, and Herbert J. Walberg* ..... page 5.3

B. Non-Trainers in Training Roles
- On Target: From Expert to Trainer, *by Ellen S. Carnevale* 5.7

C. Motivating Trainees
- No Self-Efficacy, No Performance, *by Robert F. Mager* 5.13
- Eight Dangerous Assumptions About Listeners, *by Kittie W. Watson and Larry L. Barker* 5.17

D. Trainees With Special Needs
- On Target: Tools to Train People With Disabilities, *by Robert L. Reid* 5.21
- Translation, Please, *by George P. Rimalower* 5.25

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A. THE PROFESSIONAL TRAINER

PROMOTING TEACHER BEHAVIORS THAT PROMOTE STUDENT LEARNING

by Greg Clark, Roy Steele, Richard P. Niemiec, and Herbert J. Walberg

In corporate and industry training, it is often difficult to assist technically qualified personnel and managers to become competent instructors. There are, of course, several conventional ways to train technicians and managers, such as coaching, courses in presentation skills, and teaming novices with veteran instructors. Although these are convenient and common ways to break in new teachers, they are unlikely to address all aspects of good instruction and yield effective instructors.

Post-observation coaching, probably the most typical practice, allows beginners to make mistakes—sometimes egregious errors—with the audience, thus detracting from the course impact and client satisfaction. Further, the presence of the supervisor in the classroom without any predefined format for evaluation may increase instructor anxiety and cause an atypical performance.

Sending the instructor off to a presentation-skills course may help, although the focus of these courses is generally on behaviors that enhance audience affect, and may do little to induce student learning. Moreover, teaming a novice instructor with an experienced instructor may present tactical and/or financial problems. Finally, one of the most frequently used methods is the sink-or-swim method, since many administrators assume that the thousands of hours of schooling and college experiences as a student suffice to produce pedagogical skills. Despite its common use, few professionals advocate the sink-or-swim method of instructor training.

Our approach to this dilemma is based on the premise that behaviors that teachers exhibit (things they do) in classrooms promote student achievement. We have detailed these behaviors in an Instructor Feedback Observation Form (IFOF) to assist both instructors and administrators in defining and observing good teaching practices. The behaviors listed are not consistent with those skills learned in presentation skills classes, skills that are usually designed to transmit information or heighten interest but not necessarily facilitate learning.

The IFOF is based on instructor behaviors that are discrete and low inference, meaning that they do not require much judgment on the part of the observer to determine their presence or absence. For example, "acting in a professional manner" is a hallmark of good teaching, but what exactly does that mean? On the other hand, the presence or absence of behaviors that "present the objectives of the lesson" would cause little difficulty among observers.

Our list of behaviors was developed from research on teaching at all levels (Rosenshine & Stevens, 1986; Tom & Cushman, 1975). Some of the items may require modification depending on the purpose and type of instruction. For example, redirecting student questions back to the audience is standard in management development courses, where pooling the collected wisdom of the group is a major objective. This behavior, however, may not be as appropriate in a technical course where the group may not know the answer.

The IFOF is divided into several sections. The first identifies the instructor, observer, and dates and times of observation. Course format is also noted together with other details. This information is useful in capturing the context for the training experience.

Immediately following the background information are two sections of listed behaviors. Section One contains the first 10 behaviors, some of which may be exhibited only once during a module or course. The behaviors are sequenced to reflect a common organization of the training modules. Behaviors 1 through 4 generally occur at the beginning of a module, 5 through 8 in the middle, and 9 and 10 at the end. Any of these items, however, may occur during any part of the training session. During the observation, these are coded as observed, unobserved, or inapplicable.

Section Two of the IFOF includes behaviors 11 through 24. These generally reflect those events that may occur at any time during the training experience. Each of these behaviors pertains to a different aspect of the delivery and, depending on the setting, some will occur more frequently than others. Because these may occur at different times during the module or course, they are tallied for frequency and scored as either evident, not relevant, or a missed opportunity.

Most behaviors are generally self-explanatory, but one or two deserve comment. Checking for understanding, for example, can be accomplished in several ways.

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Instructor Feedback Observation Form

Observer _____ Date _____

Instructor _____

Course _____ Module _____

Beginning Time _____ End Time _____

Methodology (ies)

Lecture		
Lab		
Roleplay		
Large group discussion		
Small group discussion		
Size of group		
Facilitator's Guide in visible use (Please circle yes or no.)	Yes	No

Section One: Items Coded Once	Observed	Not Observed	Not Applicable
1. Presents objectives			
2. Conveys benefits of course			
3. Clarifies expectations			
4. Establishes behaviors/norms			
5. Follows suggested activities			
6. Follows time suggestions			
7. Operates instructional media properly			
8. Prepares legible visuals			
9. Reviews key points			
10. Relates key points to future activity			

Section Two: Rated Items *(Items 11-21 should be tallied for frequency.)*	Tallies	Comments
11. Provides clear instructions		
12. Uses examples or analogies		
13. Asks open questions		
14. Paraphrases or repeats student comments		
15. Checks for understanding		
16. Circulates among small groups		
17. Probes for more information		
18. Addresses participants by name		
19. Uses correct grammar, avoids jargon		
20. Redirects student questions or comments back to audience		
21. Speaks with expressiveness and varies tone of voice		

Rate scale for items 22-24:

3 = Evident most of the time; 2 = Evident some of the time;

1 = Not present but needed; 0 = Not relevant to this module

	Rating	Comments
22. Maintains eye contact		
23. Deals with challenging behavior		
24. Addresses participant questions		

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The instructor could:

- Ask the group at large if there are any questions, or
- Knowing that some individuals are reluctant to ask questions in a group, direct the question to a specific student, or
- Assuming that this is a very proactive group, just read students' faces for puzzled expressions.

Obviously, the choice is geared to the experience of the instructor and the level of student expressiveness.

The information collected on the form can be used in several ways. The most obvious use is immediate data-based feedback to instructors upon completion of the module. The manager and the instructor can discuss possible discrepancies in their perceptions of behaviors, the strengths and weaknesses of the lesson, and, most important, ways of improving instruction.

In addition, however, the results from manager ratings may be supplemented by those of students in the module. The results may be accumulated over time, keyed into a computer, and analyzed for several purposes. The analyses can reveal trends in module quality over time, comparative strengths of various modules, and relative ranking of different instructors for periodic performance reviews.

Using direct observation as an instructor-feedback method has a long history in public education. Numerous feedback forms have evolved over the years to complement observation. While not widely employed in corporate settings, such objective methods of behavioral feedback have been shown to improve the instructional process.

Both trainers and training managers can adapt the IFOF's substantive behaviors to more closely match the particulars of their training situations and thus maximize instructional quality. The major advantage of the IFOF is that it details and promotes specific teacher behaviors that have been shown to enhance student learning. It also provides a basis for the evaluation of instructors and instructional quality.

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TDY 93/94 IN BRIEF

DEFINITIONS OF HRD

Source: "A Unifying Definition for the Human Resource Development Profession," by Neal Chalofsky, *Human Resource Development Quarterly*, Summer 1992, pp. 175-182

The human resource development field has long been struggling to develop an identity as a profession, especially in terms of its applied and interdisciplinary nature. In this article, the author looks at existing definitions of HRD—those of Nadler, Chalofsky and Lincoln, ASTD, Gilley and Egglund, Smith, and Watkins—and he notes the common themes which run through all of them. Drawing on their definitions, he comes up with his own: "Human resource development is the study and practice of increasing the learning capacity of individuals, groups, collectives, and organizations through the development and application of learning-based interventions for the purpose of optimizing human and organizational growth and effectiveness." He further defines the core of the profession in terms of: (1) ASTD's statements on the mission and values of HRD, (2) theory and concepts—the intellectual underpinnings of the profession—and (3) roles and competencies—the skills and abilities needed to put theories and concepts into practice. (AN127)

STANDARDS OF COMPETENCE FOR TRAINERS

Source: "Competence Standards for Industry Trainers: Alternative Models," by John Garrick and Rod McDonald, *Journal of European Industrial Training*, Vol. 16, No. 7 (1992), pp. 16-20

In this article, the authors examine 4 models of competence-based standards for trainers from different parts of the world. The models reviewed are:

- The UK Model (from the UK's Training and Development Lead Body),
- The Canadian Model (from the Ontario Society for Training and Development),
- The American Model (from the American Society for Training and Development), and
- The Australian Model (from Australia's National Training Board).

The authors compare and contrast the models, and they enumerate various purposes for competency standards: (1) to specify the competences required (e.g. for job descriptions), (2) to assess trainers' performance, (3) to guide one's personal professional development, (4) to

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guide the formal training and certification of trainers, and (5) to guide organizations in their conceptions of training. With these purposes in mind, the authors discuss 3 approaches to conceptualizing competence: (1) analysis of professional work in terms of roles, tasks and subtasks, (2) analysis of the knowledge, skills, and attitudes required by the individual professional, and (3) analysis of professional knowledge, skills, and attitudes in the context of the performance of realistic professional tasks. The authors suggest that these three approaches point to a new, integrated model, and they illustrate this model with a brief example. The authors caution against the over-simplification of competence standards, and they point out the need for greater clarity about the values implicit in these standards so that they will provide the quality assurance that trainers seek. (AN128)

INSTRUCTOR EXCELLENCE

Source: *Instructor Excellence: Mastering the Delivery of Training*, by Bob Powers, Jossey-Bass Inc., Publishers, 1992, 230 pages, $27.95

Most books that are ideal for novice instructors are a bore for experienced presenters. This book is a marvelous exception. The author, a past-president of the National Society for Performance and Instruction, applies principles of performance technology to improving instructor performance. "Instructors will perform with excellence," he says, "if they are capable, have well-defined job roles, know what is expected of them, have the tools to do the job, and receive feedback and rewards that reinforce and develop excellent performance." This book, then, is designed to improve the performance of both the instructor supervisor and the instructor him- or herself. The author begins by emphasizing the importance of excellent instructors, and then he outlines the skills, knowledge, qualifications, experience, and characteristics needed in a good instructor. Next, he explains how to interview candidates for an instructor position, presents a valuable interview form, and describes how to select top candidates. At the core of the book are 60 "Performance Standards for Instructors," which help instructors know exactly what is expected of them. These also form the structure for the author's chatty comments about instructing. Some standards get a paragraph or two, such as No. 25: "Instructor consistently speaks in a clear and audible voice, with a variety of inflections." Others, such as No. 50 ("Instructor generally demonstrates proficiency in using training aids"), get several pages. The author's analysis of No. 22 ("Instructor generally manages own nervousness so as not to detract from learning") is hilarious. He describes types of nervous instructor behavior—such as movers and shakers, mind blowers, drippers, gut wrenchers, garblers, and cotton mouths—and then he offers tips on eliminating nervousness. The last part of the book provides guidelines for those supervising instructors: observing, providing feedback, developing instructors, etc. The author's list of "99 Ways to Recognize and Reward Instructors" is classic. The book concludes with suggestions on solving typical classroom problems, such as excessive talking, participant challenges to the instructor, irrelevant questions, etc. (AN129)

BECOMING AN INTERNAL TRAINING CONSULTANT

Source: *The In-House Trainer As Consultant*, by Keith Holdaway and Mike Saunders, Kogan Page Limited, 1992, 136 pages, £14.95

The way of the future for trainers is the consultancy role, say these authors: organizations tend to progress through training stages until they reach a point at which the trainer operates as an internal consultant. The authors take the reader through the process of development from trainer to consultant. The chapters cover:

1. *The Role of the Trainer*—the role and contribution of training, factors that influence the trainer's role, and paving the way toward consultancy
2. *Current Changes*—how developments in training give the in-house consultant a key training role
3. *What Do Consultants Do?*—roles and activities of consultants and situations where they are used
4. *Consultancy within the Organization*—how the internal trainer can gain acceptance of the consultancy role
5. *Starting an Internal Consultancy Service and Securing Contracts*
6. *Skills and Techniques—Data Collection, Identifying Problems and Agreeing the Contract*
7. *Skills and Techniques—Project Management, Learning Design and Implementing Change*—kinds of review and project management systems suited to small projects, the consultant's role in implementing changes, and techniques of project management
8. *Skills and Techniques—Disengagement and Continuation*
9. *Consultancy for Tomorrow*

Each chapter includes information, reflective questions, an ongoing case study, and a "Program of Action" for the reader to apply to his or her own situation. The appendices consist of two additional case studies and a list of related reading. (AN130)

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B. NON-TRAINERS IN TRAINING ROLES

ON TARGET: FROM EXPERT TO TRAINER

by Ellen S. Carnevale

What comes first, the content or the pizzazz? Knowledge of the subject or top-notch trainer skills? This answer is not a rehash of the chicken-or-egg question. In the case of train-the-trainer programs, say the people interviewed here, the answer is perfectly clear: Subject matter expertise comes first; good presentation skills can be taught later.

They agree that it's easier to teach training skills to technical experts than to teach subject matter knowledge to training experts. There is a difference, however, in the type of train-the-trainer programs they offer, depending on whether the subject matter experts design and deliver the training program or just deliver it.

If they are expected to design the program, a more intensive train-the-trainer program is warranted; if their only responsibility is to teach, more attention is paid to presentation skills than, say, to writing learning outcomes, creating evaluation instruments, or other design skills.

The people interviewed address these facets of train-the-trainer programs:

- Reasons for training subject matter experts to be trainers
- Design of train-the-trainer programs
- Selection of candidates and certification of trainers
- Skills of an effective trainer.

Mike Matzek
Coordinator, Training Department, Aluminum Company of America (ALCOA), Alcoa, Tennessee.

Mike Matzek walks his talk. He is a mechanical engineer by education, and has been an industrial engineer, production supervisor, and superintendent. About nine years ago, he began conducting some nontechnical training. "I found that I liked it better than my job," he says. "So the first time I had an opportunity, I moved in this direction. I have never regretted it."

Now he coordinates technical training at an ALCOA plant that produces flat-roll sheet metal for beer and soda cans. In the last four years, ALCOA spent $500 million modernizing the plant, where an 80-person training department works to train 3,300 employees. The training department there is the company's largest, Matzek says. Its staff has "probably as many as the rest of the Aluminum Company of America put together in all our plants in the U.S." Four people work in their video studio making training videos. Ten people work in graphics, and more than 40 in program design.

When the training department needs a trainer—trainer jobs are full-time—a bid is posted in the plant. The hourly workforce is represented by the United Steelworkers, and the union agrees with this process, Matzek says. "[The union has] agreed that, if we will advertise broadly, give everybody a chance to apply, then we can pick anybody we want, without regard to seniority."

Everyone who applies is tested. The tests cover job skills that the applicant has, such as electronics or machining. Other tests cover math, reading and comprehension, troubleshooting, and a first pass at presentation skills, the "stand up and teach me something" test, Matzek explains. Then members of the training staff interview the applicant and her or his co-workers. "If I get some negatives, I just don't hire" the person, Matzek says. The training department spends a significant amount of preparation time, "but we are satisfied when we take somebody in that they are going to work out," he says. When a trainer transfers out of the training department, it's to take an even better job, he notes.

ALCOA also works with the local two-year technical college to recruit instructors. "We want some outsiders, for the different view that they bring, and we want some insiders because they lend some credibility to the training," Matzek says.

Every trainer in the department goes through a five-day train-the-trainer program (see Figure 1). The program is highly interactive and creative—participants are videotaped several times, take part in group presentations, and create a 10-minute presentation for the last day's class. Matzek says that there are two messages that participants get: "One, training ought to be fun . . .and it ought to be interactive."

Some examples of the exercises follow:

- During the second day, participants are divided into groups of five people. Each group is given a dozen eggs and must demonstrate how to separate the whites from the yolks. Everyone in

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Instructor Training at ALCOA

Figure 1

Day 1	Day 2	Day 3	Day 4	Day 5
Welcome and Ground Rules	Trainer's Role	Warm-up	Motivation in the Classroom	Video Number 3
Video Number 1	Writing Objectives	Flipchart Production	Voice	Review Video Number 3
Communications	Classroom Management	Prep time for two-minute presentations	Fishbowl	Wrap-up
Presentation Skills	Audiovisual Aids	Two-minute presentations	Critique Fishbowl	
Expectations	Techniques/ Interaction	Playback	Graphics	
Review Video Number 1		Overheads	Workshop	
Giving Feedback		"Hollywood Productions"		
Labeling Exercise				

the group must participate. The demonstrations are videotaped.

- During the third day, participants are divided into groups and given a toy with which they must create a commercial. Called "Hollywood Productions," this exercise "gets really good feedback," says Matzek. One person in the group takes responsibility for videotaping the commercial, and the entire group gets the chance to watch all videotapes.
- On the fourth day, trainees take part in what Matzek calls a fishbowl exercise, where they literally reach into a fishbowl, pull out a card with a generic subject on it, and talk for a couple of minutes. Subjects range from airplanes to railroads to boxing, topics that "you would have no trouble talking about for two or three minutes," says Matzek.
- On the fifth day, participants are divided into two groups, and each person gives a 10-minute presentation, "using all of the skills that they have learned throughout the week," he says.

One of the strongest aspects of the course, Matzek believes, is that six or eight people deliver the training, rather than just one or two. "They have fresh faces and a lot of energy," he says.

One of these energetic instructors is Ralph Hillman, a voice and diction instructor at Middle Tennessee State University. At ALCOA, Hillman teaches vocal skills—a critical yet often overlooked factor in presentations. He believes that a person's voice carries a stereotype, and some of these stereotypes can interfere with a trainer's effectiveness. A nasal-sounding voice, for instance, can be irritating; therefore, trainees might not listen carefully. A speaker who raises the pitch of his or her voice at the ends of sentences might sound uncertain of the content or lack self-confidence. But voices can be changed. Hillman provides examples of voice quality; he's very good at imitating all types of voices in order to demonstrate correct—and incorrect—breathing and posture. "Part of the problem is that most people don't get enough information on the use of the voice and how to change it," he says.

ALCOA's instructor training seminar is intense. During one week, participants create, present, and get feedback on their skills as budding instructors. "In one week, you really can't do what you would like to do," Matzek says. "So what we do in that first week is build people's confidence. They feel comfortable enough to go out and start to teach. And the more they do, the better they get."

Charles Gustafson
Program Coordinator, Technical Instructor Institutes,
Eau Claire, Wisconsin.

The Technical Instructor Institutes owes its start to the Volkswagen. In the mid-1960s, while preparing to introduce the VW to American service technicians who would fix the bugs in the Bugs, Volkswagen set up a technician training institute through the University of Wisconsin Extension in Eau Claire. As the training programs grew, so did the institute's mission—from training service technicians to general technical training. Now the institute is part of the university.

Over the years, the institute's program coordinator, Charles Gustafson, has seen a change in the attitude about technical training. "Ten years ago, some of the people got promoted into training because [companies] didn't want to fire them. Now we are getting people who are selected for training because they are really good, not because we have got to find some place to put them."

"Training Skills for Technical Instructors" is the train-the-trainer program that the institute either runs from its

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home campus or takes to companies. Of the many courses offered, this "is the first one that most would take," Gustafson says. This program, like ALCOA's, spans five days and includes several videotaped practice sessions. This course assumes that participants have responsibility for designing as well as delivering training. Each day's agenda is extensive:

- Day 1: general topics, such as working with adult learners, motivation, and instructional methods.
- Day 2: instructional design, such as writing course objectives and creating course materials.
- Day 3: the visualization process, or as Gustafson explains, "not how you make the visuals but how you decide what should be in them"; training evaluation.
- Day 4: technical presentations. A facilitator reviews the process of making a presentation and answers any questions that participants may still have. Day 4 also includes a three-hour evening session in which each participant prepares a six-minute presentation for the next day. The ratio of three hours of prep time to six minutes of presentation time is 30:1. "Many of them don't get it done; they never thought it took that much work to put together a presentation," Gustafson explains.
- Day 5: presentations. These presentations are videotaped, and professional "critiquers" from the University of Wisconsin review the presentations and give feedback. Participants also critique the presentations.

Gustafson feels that another strength of this program is the use of different instructors from around the country, who come to campus or corporate classrooms to teach their piece of the course. "Each day is done by a different instructor," he says. "By doing that we are varying some of the anecdotal information, and keeping up-to-date."

A new course grew out of a trend in manufacturing: line supervisors who need to train their new employees for quality and productivity. "These supervisors learned their jobs over 15 or 16 years, and now they have, at the most, only a couple of months to train new people to be productive," Gustafson says. There are two versions of this course. A three-day program is for supervisors only, and trains them on how to conduct on-the-job training. A five-day version includes staff from a training department, and the content covers how to document on-the-job training.

Dave Shypulski
Training Supervisor, Northern States Power Company, Minneapolis, Minnesota.

Northern States Power has its own train-the-trainer department, but there was a time when the power company had only a few trainers. With annual sales now at $2 billion and with more than 6,000 employees, the company had to expand its cache of trainers.

When a training position is posted, any qualified candidates can apply. The training department interviews all candidates and, once selected, the candidate moves into a full-time training job. Five days of instructor training are mandatory (see Figure 2), along with company-required continuing education.

Through a job and task analysis of the trainer's job, the training department created a guide to the primary instructor skills. When new trainers come into the program, "they are given a cooperating instructor, someone who has been around for awhile and is an effective trainer to help them with some of the skills," Shypulski says. A new trainer works on one skill at a time, practices in the classroom, and once successful, gets signed off to move on to another skill.

In addition, Northern States Power has a continuing training program for all instructors. "This program

Fundamentals of Instruction at Northern States Power

Figure 2

- Introduction to Instruction
  —Trainer's Role in Instruction
  —Training System Design Model
- Instructional Methods
  —Characteristics of Adult Learners
  —How Learning Occurs
  —Methods to Facilitate Learning
- Introduction to Analysis and Design
  —Using Task Analysis to Create Objectives
- Lesson Planning
  —Organization
  —Use
- Instructional Media
  —Creating Media to Enhance Learning
- Assessment and Evaluation
  —Purposes of Trainee Assessment
  —Writing Tests
  —Post-course Evaluations
- Records
  —Record System
- Lesson Plan Writing
  —Creating a Complete Lesson Plan: Objectives, Media, and Tests
- Lesson Presentation
  —Critiqued Presentation

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CASE STUDY: TRAINER TRAINING AT ERIE INSURANCE GROUP

Source: "Transforming Technical Experts to Technical Trainers," by Robert A. Leininger, *et al.*, *Performance & Instruction*, January 1992, pp. 21-28

With the right training, technical experts can be turned into good trainers, say the authors. They present a train-the-trainer program which has been used successfully with 50 trainers at the Erie Insurance Group, and these people in turn have impacted at least 1300 other employees. The 3-1/2 day workshop consists of 6 units: (1) adult learning, (2) principles of effective classroom learning, (3) how to design training systematically, (4) methods and techniques, (5) instructional aids, and (6) classroom management. It concludes with each trainee presenting a 15-minute instructional unit to the rest of the class. Throughout the program, the trainer models a learner-centered approach, reminding trainees that the modeling is being done deliberately to reinforce learning materials. A wide variety of methods and approaches are used to demonstrate the different methods and techniques that are available to trainers. Tables illustrate course units and objectives and 2 of the instructional aids used. (AN131)

requires twenty hours a year instructional skills training and forty hours a year technical skills training," Shypulski says. There also are two certification levels for trainers: basic instructor and advanced instructor.

Trainers are taught to both design and deliver courses. Says Shypulski, "It has been our experience that trying to work with someone else's material is very difficult."

With such an extensive program for new trainers, Shypulski doesn't lose sight of the bottom line objective: to present an idea with clarity. "We have a tendency to make things complicated when simplifying the process is what instruction should be."

Bill Eppel
Director of Personnel Development and Staffing, CF Industries, Long Grove, Illinois.

CF Industries, Inc. produces about $1 billion worth of chemical fertilizers annually. The work force is small in numbers, around 1,700 employees—mostly in Illinois, Florida, Louisiana, and Canada. Because the company is in the chemical processing industry, it devotes a lot of effort to protecting the environment and health and safety of its employees. Local plants and distribution facilities have primary responsibility for these activities; the corporate office provides direction. Much of the training is done locally by front-line supervisors. Says Eppel, "We want our supervisors to be accountable for a large portion of our safety training activities because they know their situations the best and are responsible for safety in their work areas. As trainers, they need to demonstrate leadership and maintain ownership for results."

Eppel had taken the Technical Training Institutes' train-the-trainer course years ago. So when he began to design CF Industries' program, he contracted with the institute for their three-day training program for supervisors. "Typically, the supervisors train one-on-one or in small group sessions usually lasting an hour at the most," he says. For example, supervisors train employees on the proper use of respirators. But even these short safety meetings are designed around a four-step training method: preparing the learner, showing the learner, having the learner show you, and following up.

The one-hour safety meetings represent the greatest amount of concentrated training time for supervisors. "More frequently they conduct brief refresher kinds of training activities such as tailgate meetings," Eppel explains. In these tailgate meetings, supervisors will conduct a 15- or 20-minute session with a work group either before, during, or after a shift. "They have to be able to put everything into a very compact time period," he says.

The train-the-trainer program developed for CF supervisors is participative, and the trainees are encouraged to be creative not only in their classroom presentations but in the real safety meetings they will conduct back on the job. "In the area of safety, you are doing a lot of refresher training, and it can get very old," Eppel notes. The three-day program has this agenda:

- Day 1: performance analysis and the four-step training model
- Day 2: task analysis, coaching, audience analysis, conducting safety meetings, and preparation for individual presentations
- Day 3: individual presentations (videotaped and critiqued).

"We want their individual presentations to be a positive experience. While we want them to demonstrate good training skills, we like them to use their own style so

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that they feel comfortable and come across as believable," says Eppel. This training effort has a residual effect. "Although the focus of the workshop is on safety training, the techniques taught are applicable to most other training situations faced by the supervisors," he feels. "We've been pleased with the carryover it's had."

TDY 93/94 CASE STUDY: PEER TRAINING AT A PAPER MILL

Source: "Turning a New Page in OJT," by P.J. Marsh and Dave Pigott, *Technical & Skills Training*, May-June 1992, pp. 13-16

During the late 1980s, management at South Carolina's Westvaco paper mill realized that they needed to improve classroom and on-the-job-training (OJT) for employees who were operating the company's massive paper machines; they also decided that they would rely, as in the past, on experienced operators to carry out the bulk of the training. This article explains the suggestions made by training consultants on how the company could improve its training under these circumstances:

- Develop performance-based classroom training based on objectives that describe what trainees will be able to do after training, explicitly relating machines and systems materials to operator jobs.
- Use brief checklists to conduct OJT and ensure that it is accurate, uniform, and organized.
- Teach the people responsible for the training how people learn and how to facilitate learning.
- Verify learning with checklists after training.

Task analyses were prepared and checklists were designed with 4 purposes in mind: (1) to help reduce confusion and focus trainee attention, (2) to ensure that operator/trainers are ready to work with trainees, (3) to enable trainers to show trainees how to do the job, and (4) to determine whether extra training is needed. Trainers discovered that the operator/trainers needed training themselves to use the checklists properly, and a list of guidelines were drawn up for them as well (a copy of which is included in the article). A sidebar illustrates the cycle of on-the-job training, through: (1) preparation, (2) information presentation, (3) demonstration, (4) practice, and (5) closure. (AN132)

TDY 93/94 IN BRIEF

HRD FOR NON-HRD MANAGERS

Source: *Every Manager's Guide to Human Resource Development*, by Leonard Nadler and Zeace Nadler, Jossey-Bass Inc., Publishers, 1992, 145 pages, $25.95

Observing a strong trend toward assigning general managers to head up HRD units, the authors sensed an information gap. "After years of consulting work in the HRD field," they explain, "it became apparent that there was a considerable amount that non-HRD managers needed and wanted to know that was not included in either of our first two books. Consequently, we decided to write a book focusing specifically on what non-HRD managers have told us that they want to know." To make the information readily accessible, the authors use a question-and-answer format, grouping key subjects into 12 chapters:

1. What Human Resource Development Is and Is Not
2. Training, Educating, and Developing: Different Activities for Different Results
3. The HRD Staff: Who They Are and What to Expect from Them
4. Internal and External HRD Consultants: How to Select and Use Them

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5. Providing Funding, Facilities, and Equipment for HRD
6. Linking Employee Learning with Performance Improvement
7. Evaluating the Effectiveness of HRD Programs and Activities
8. Being a Supportive Partner in HRD Efforts
9. Placing HRD Strategically in the Organization
10. Professional and Ethical Concerns in HRD
11. The Role of HRD in a Global Work Force
12. HRD in the Future: Challenges and Changes

Readers will be able to dip into the book easily, since each question is listed in the table of contents in lieu of an index. Examples of some the leading questions under the subject of "Internal and External HRD Consultants" are: What is a consultant? What are some of the reasons I would want a consultant? and Where would I look for a consultant? The book seems to be a reader-friendly way to bridge the understanding gulf between management and HRD. (AN133)

TRAINING 101

Source: "Creating a Dynamic Training Program," by Charles M. Cadwell, *Trainer's Workshop*, Vol. 6, No. 2 (1992), pp. 4-64

How do you get new trainers and supervisors introduced to training? The author offers a one-day workshop for this purpose, and it consists of 5 one-hour sessions for groups of 10 to 15 people. The sessions are:

1. **Training Benefits.** This session establishes the importance of training, the costs of failing to train, and ways to obtain top management support for training programs.
2. **Goals and Objectives.** The basics of defining and writing goal statements and objective statements are covered here. Workpapers give guided practice in writing training objectives and course descriptions.
3. **Adult Learning Principles.** In this session, the 5 principles of training adults are examined: individual differences, motivation, emotion, application, and involving the senses.
4. **Developing Training Materials.** This module guides participants in course development, selecting training methods, preparing a leader's guide, developing participant materials, providing audio/visual support, and pilot-testing a course.
5. **Developing Your Presentation.** Participants in this session are introduced to a variety of methods for starting a presentation, communicating information, enhancing a participant's learning through group involvement, and closing a program.

This training module contains all the instructor's notes, overhead masters, workpapers, pretests/posttests, and supportive bibliography needed to teach the course. (AN134)

COACHING OCCASIONAL SPEAKERS AT TRAINING PROGRAMS

Source: "Coaching Speakers," by Terry H. Chapman, *Training & Development*, April 1992, pp. 21-27

One of the roles of a training director is coaching the speakers chosen for training programs. "Coaching," says the author, "involves evaluating speakers and using their past performance to help them improve." He suggests beginning the coaching with positive feedback, then discussing the behaviors that need improvement. Finally, he advises, have the speaker summarize your coaching suggestions in his or her own words. The author discusses some of the different demands on occasional or single-topic speakers as compared to the primary presenters for a multiple-day workshop. He suggests reviewing time limits, as well as going over visuals to make sure they will be visible. "If you are paying the speaker," he says, "you can expect her or him to follow your suggestions for improvements. But if a speaker is a volunteer, you may have to rely on diplomacy." (AN135)

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C. MOTIVATING TRAINEES

NO SELF-EFFICACY, NO PERFORMANCE

by Robert F. Mager

Just as violins alone cannot create the sound of an orchestra, trainers alone cannot assure that the people they train will perform well on the job. For people actually to do the things they need to do to perform a job successfully, these four conditions must be present: skill, self-efficacy, opportunity to perform and a supportive environment.

Though trainers are responsible for influencing the skills and the self-efficacy of their trainees, only managers can be held responsible for providing an opportunity to perform and a supportive environment in which to perform.

The first, third and fourth requirements for facilitating performance are obvious enough. Without skill, performance isn't possible. Without an opportunity to perform—that is, without the tools, equipment, space, time and permission to do the job properly—performance isn't possible. Without a supportive environment (one that rewards rather than punishes desired performance), performance will quickly wither. But self-efficacy is also critical to sustained performance. What is it, and how is it created?

Self-efficacy refers to people's judgments about their capabilities to execute particular courses of action—to do specific things ("I can ride a horse bareback—or with my shirt on"). It refers to people's beliefs about their ability to influence the events that affect their lives. It is concerned not with the actual skills one has, but with judgments about what one can do with those skills ("I know I can play *The William Tell Overture* on the violin while blindfolded").

The importance of self-efficacy (SE) must not be underestimated. Stanford University psychologist Albert Bandura put it succinctly in "Organizational Applications of Social Cognitive Theory," an article in the December 1988 issue of the *Australian Journal of Management:*

"People who have a strong belief in their capabilities think, feel and behave differently from those who have doubts about their capabilities. People who doubt their capabilities shy away from difficult tasks. They have low aspirations and weak commitment to the goals they choose to pursue. Failure wrecks their motivation.... They give up quickly in the face of difficulties and are slow to recover their confidence following failure or setbacks."

When people don't judge themselves able to do some particular thing, they may not even try to do it, regardless of how well they *can* do it. And if they don't judge themselves able to learn to perform, they may choose not to enter fields in which they might excel. People don often put themselves willingly into situations where the think they will fail. Therefore, if they are given the skil they need, but not the self-efficacy (the belief that thes skills really will enable them to tackle the tasks question), they will be unlikely to attempt to apply th skills on the job. It's just too risky for them. No sel efficacy, no performance.

Note that it is possible to have high self-efficacy abo a specific performance, and at the same time expect th it will produce negative results. For example, someon can have high self-efficacy regarding an ability to pe form an appendectomy through a one-inch incision, an at the same time be convinced that the operation will fa One can have strong self-efficacy regarding one's abili to drive a golf ball long distances, and at the same time b convinced that the game will be lost. Self-efficacy refe to self-judgments about performing a specific act, rath than expectations about the consequences or outcomes that act.

Self-Efficacy, Motivation and Behavior

Self-efficacy has five main effects on behavior.

1. Choice behavior. Our choices are often affecte by how efficacious we feel toward the options. If believe that I will do poorly at speaking to large aud ences, I may refuse invitations to speak at events th might enhance my career. Looking deeper, the sam principle may influence the career I select in the fir place, since people who believe that they will do poor in a field will be less likely to choose it. ("I don't belie I could perform well as a tiddly-winker, so I think I'll a trainer instead.")

2. Motivation. People with high SE will mobili more effort than those with low SE. That is, those w believe in their ability to perform in a given area will more likely to strive harder to succeed.

3. Perseverance. People with high SE will persev even in the presence of obstacles and negative outcom They are better able to continue, to bounce back, in face of disappointments and frustrations. They w

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perceive a failure as only a temporary setback, rather than a final result.

Training implication: Because it is normal for trainees to experience failures during learning, it's important to help them understand that failures are a natural part of learning from mistakes.

4. Facilitative thought patterns. People with high SE toward performing a skill or a range of skills say to themselves, "I'm going to figure out how to solve this problem." Those with low SE say, "I can't do this thing," interpreting their current lack of success as a lack of ability. Thus, self-talk is influenced by self-efficacy. Those with high SE run off success scenarios; those with low SE run off failure scenarios.

The significance of these thought patterns is supported by a number of studies on performance as a function of perception. For example, when aging people perceive their memory loss as being due to biologically shrinking capacity, they make no effort to remember things—and they become forgetful. On the other hand, those who perceive the losses as resulting from a lack of practice tend to work harder at remembering things, and thereby improve their memory.

Training implication: Help trainees interpret their failures as a lack of practice, rather than as a result of biological inevitability.

5. Vulnerability to stress and depression. Those with low SE are more likely to experience stress and depression, because they expect their future performance will lead to failure. For example, people who judge themselves to be poor public speakers will often experience all the symptoms of stage fright: sweaty palms, elevated heart rate, rapid breathing, and so on. Those with high SE, on the other hand, approach stressful situations with the assurance that they will be able to handle them—and so do not distress themselves before a performance begins. Strong, positive self-efficacy, therefore, helps reduce vulnerability to stress and depression.

Training implication: Because of the debilitating effects of low SE and the enabling effects of high SE, it is important to work at strengthening self-efficacy whenever it is particularly subject to influence. Training is such a time.

How Is Self-Efficacy Strengthened?

It is commonly, and erroneously, believed that self-efficacy is developed merely through adding more knowledge and skill, or by some sort of generic "confidence building" exercise such as mountain climbing or river rafting. Not so. A positive self-judgment about tree climbing, for example, by no means guarantees a similar self-judgment about one's ability to perform on the job. As for adding knowledge and skill, it's obviously true that practice leading to mastery is important. But mastery performance is just raw data that needs to be correctly interpreted by the performers (or trainees). Unless they do so, they might conclude that their performance was due to something other than their own skill.

In other words, practice alone is not enough. Self-efficacy is strengthened through practice *and* through the conditions and consequences that accompany the practice of the skills to be learned. If there is no practice, of course, there is little chance that either skill or a belief in the ability to perform will develop. But the practice must be accompanied by informative feedback about the performance. The practice must be designed to lead to a series of successes, and there must be positive consequences when these successes occur. In addition, the instructional environment must provide opportunities for trainees to judge their own levels of competence. And the environment must be orchestrated so that trainees learn to credit their successes to *their own performance*, rather than to the influence of others or to some other situational factors.

To clarify all that, here are five ways to strengthen self-efficacy.

1. Performance Mastery

The most powerful way to give me self-efficacy regarding my ability to do something well is to teach me to do that thing well. But the development of mastery (or "fluency") is not enough, because performance mastery is just raw data. Unless people are taught to interpret those data correctly, they might conclude that their mastery performance was due to other causes: "The instructor helped me." "Other students helped me." "I did it right because of the job aid." "It was just good luck." "The conditions were ideal." "The task was easy."

For performance mastery to have maximum effect on SE, feedback needs to be constructive, and people must learn that they are the cause of their performance. That way feedback will have a positive effect on their perception of competence.

Training implications:

- Arrange for enough independent practice so that mastery, as defined by the objectives of the course, is reached or surpassed.
- To assure a series of successes, break the learning into manageable chunks that have definite end points. This will also provide more opportunities for *self*-confirmation of one's capabilities.
- Feedback should report progress ("You've almost got it." "You're already 75 percent of the way there.") rather than shortfall ("You're still not performing as fast as you need to.")
- When providing feedback, remind trainees of the effect of their own skill and of the minimal role played by other factors.

2. Task-Diagnostic Feedback

We can interpret feedback information either in self-diagnostic or task-diagnostic ways.

In the *self-diagnostic* mode, people interpret negative feedback as an indication of personal deficiencies and imagine all kinds of disasters. They perceive failures as

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a reflection on their basic aptitude. They may also blame others when they fail: "They got in my way." "They didn't give me enough time."

In the *task-diagnostic* mode, people focus on the task to be performed. They interpret feedback and failure as information they can use to improve task performance. They are learning oriented. They don't see failure as evidence of incompetence or lack of ability to learn. As this is the more productive approach, it is important to keep trainees task-diagnostic rather than self-diagnostic.

Training implications:

- Task-diagnostic interpretation of failure is a learnable skill. To promote it, help trainees to perceive how they have improved since yesterday, rather than giving them messages that will further erode their confidence: "You're not working up to your potential." "You can do better than that." "You've still got a long way to go."
- Don't deliberately make trainees fail in public. If they happen to have low self-efficacy, public failure will be more destructive—not only to the performer, but also to low self-efficacious observers. For instance, don't have trainees role play in front of an entire class until their skills and SE are raised sufficiently for them to carry it out well.
- Arrange for trainees to experience successes, and steer them toward interpreting their failures as not-yet-competent performance. For example, keep the objectives visible, and relate trainee performance to progress toward achievement of the objectives, rather than to the ability of the trainees.
- Provide trainees with proximal (near-term) goals. People are more confident in their ability to accomplish proximal goals than distant ones. This process also provides more frequent opportunities for reinforcement of growing competence.
- Once performance is mastered, it needs to be generalized; that is, it must be performed under a variety of conditions. Provide practice under a range of real-world circumstances to generalize trainees' sense of personal efficacy.

SELF-EFFICACY CHECKLIST

A "Yes" answer to the following questions ensures that trainee self-efficacy will be strengthened. A "No" answer represents an opportunity for improvement.

	YES	?	NO
1. Is each trainee allowed to practice until he or she can perform to the criteria stated in the objectives?	☐	☐	☐
2. Does the training arrange for private practice (to the degree consistent with the objectives) and feedback?	☐	☐	☐
3. Are the conditions under which the practice occurs as close to real world conditions as possible?	☐	☐	☐
4. Does the feedback remind trainees that their performance was due to their own skill, rather than to other factors?	☐	☐	☐
5. Does the feedback focus on performance improvement, rather than on the aptitude of the trainee?	☐	☐	☐
6. Does the feedback describe gains (progress toward the objective) rather than shortfalls (learning yet to be accomplished)?	☐	☐	☐
7. Are trainees provided with proximal (near-term) goals toward which to work?	☐	☐	☐
8. After a skill has been mastered, is practice given under the range of conditions described by the objective?	☐	☐	☐
9. Are the demonstrations conducted by someone similar to the trainees in attributes (age, sex, status)?	☐	☐	☐
10. Does the model demonstrate the same job or performance that the trainees are expected to learn?	☐	☐	☐
11. Does the demonstrator make task-diagnostic comments during or after the demonstration?	☐	☐	☐
12. When cognitive strategies are being taught, does the model verbalize those strategies when demonstrating the skills to be learned?	☐	☐	☐
13. Have steps been taken to help trainees understand that difficulty does not imply a lack of capability?	☐	☐	☐

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3. Modeling

Self-efficacy can be improved when trainees watch others *like themselves* performing competently. Modeling can convey rich information about how the task should be done and demonstrate effective ways of coping. But modeling, like feedback, provides raw data that need to be interpreted so that trainees can carry away the appropriate messages. The more similar the model is to the trainee, the greater the modeling effect. There are two dimensions of similarity:

- Performance similarity—the model performs the same type of job the trainee is learning to do, demonstrating the same type of performance required.
- Attribute similarity—the model's sex, age, status, physical characteristics, and so on match the trainee's.

To maximize the positive effects of modeling, the model should be as similar to the learners as possible, and should demonstrate what is to be learned in the way it is to be performed in real life. (That way, it will not be necessary to say, "Do as I say, not as I do.")

Training implications:

- Use models similar to the trainees, and have the models demonstrate the desired performance. Make sure the trainees understand that the performance is due to the skill of the model, rather than to other factors.
- Have the model make task-diagnostic comments during or after a performance; that is, the model should demonstrate the task-diagnostic approach to the interpretation of feedback, as well as the performance itself ("Whoops. I forgot to put my hands in the right position, but I'll get it right next time").

4. Social Persuasion

Self-efficacy is influenced by social persuasion—by the comments and actions of others. There is a long history establishing the relationship between social persuasion and self-efficacy; we all know the powerful effects that unkind comments can have on self-confidence. But the same techniques that can be used to disable also can be used to strengthen.

What must be understood is that your own comments and actions are *always* influencing the SE of your trainees, either favorably or unfavorably. You cannot choose to use or not use social persuasion. That's why it's so important to be careful about your comments and actions while you are in the presence of trainees. A small comment can have a big effect, and the way the feedback is phrased (or presented) can have a large effect on SE and on persistence.

Training implication: Arrange for trainees to perform successfully, and then interpret their achievement of objectives as evidence of increasing capability: "You do that better than the objective requires," or "You can see from the results of your efforts that you do that faster than you'll ever have to do it on the job."

5. Inference From Physiological Information

People will infer ability, or the lack of it, from physiological cues: windedness, aches, pains, effort, emotional arousal, and so on. If they have to work hard to achieve, they may interpret that fact as a lack of personal ability rather than a normal state of affairs. For me, writing is hard work, and it is easy to interpret the effort required as a lack of ability, rather than as the way things are. Creating ways to remind myself that writing is hard work (for me) helps to prevent me from misinterpreting the level of my ability.

Training implication: Make sure trainees understand that the need to exert great effort to achieve results does not imply a lack of capability. Don't allow the *difficulty* of doing something to lead trainees to conclude that they are not good at doing it, or that they will not become good at doing it.

The checklist on page 5.15 will help ensure that trainee self-efficacy will be strengthened rather than weakened. Use it to review the features and practices incorporated into your instruction. A "No" answer to any question will point you toward an opportunity for improvement in delivering instruction.

Serious Stuff

Self-efficacy is a serious matter. A great many childhoods are filled with, "What makes you think you can do *that?*" and "Can't you do *anything* right?" and "Is *that* the best you can do?" and "You'll never amount to anything!" Children thus are taught to believe not only that their skills are inadequate, but that they are lacking in basic capacities and don't have the potential to become skillful at performing the tasks of life. Entire lifetimes can be ruined by such treatment. And when trainees are ridiculed, demeaned or otherwise criticized for their attempts to try something new or to demonstrate their skill, their belief that they will *ever* be able to perform as expected is undermined.

People need a strong sense of efficacy before they will *try* to apply what they have learned and before they will try to learn new things. Belief in their ability to perform makes them less vulnerable to on-the-job conditions that aren't always supportive. It helps them to survive rejection. It helps them to persevere in the face of obstacles and setbacks. Refer to it as "self-confidence" if you want to, but the fact remains: Skills unaccompanied by positive self-efficacy will lead to deficient or absent performance.

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EIGHT DANGEROUS ASSUMPTIONS ABOUT LISTENERS

by Kittie W. Watson and Larry L. Barker

Most trainers would agree that effective communication is vital to training. When we present ideas to trainees, we like to believe they are listening. If we assume people will listen effectively just because they are physically present, then we enter a communication "danger zone."

It is easy to forget that many trainees are not highly motivated, and that many are not skilled in effective listening. To be effective trainers, we have to understand typical listener habits. Below are eight dangerous assumptions that some inexperienced trainers make about listeners.

Assumption: "If participants are looking at the trainer, then they must be listening."

The reality is that many participants fake attention.

Parents and teachers tell children, "Look at me when I'm talking to you." Years of that kind of conditioning and experience have taught us face and eye behaviors that make people think we are listening even when we are not. Trainees have received that conditioning, too. Such behavior makes it difficult for trainers to know when trainees are really listening actively.

We can tell whether they are listening if we check for understanding by looking for nonverbal cues and listening for verbal ones.

Participants usually show attentiveness through appropriate facial expressions and head nods, and by leaning forward. They also may repeat important phrases, ask questions related to the topic, and seek clarification. If participants fail to demonstrate active listening, ask questions or use a small-group activity or a role-play exercise to encourage involvement.

Assumption: "When trainers start speaking, participants start listening."

The reality is that trainees do not immediately focus their attention on the presenter. They don't listen at the beginning of a class.

When trainers begin to talk, it takes most participants several seconds or even minutes to orient themselves to the message. Previous thoughts or worries, noises, distractions, or competing messages from the environment can keep participants from listening at the moment the trainer begins to talk. So any important point, fact, or information presented during the first minute of a presentation will probably pass by the average listener.

To make sure that important learning points get through first help participants get past that brief period of acclimatization. Just as we shake hands when greeting a person we need to "shake hands"—verbally and nonverbally—with participants when beginning a training session.

A warm-up statement or exercise can help you build relationship with participants before you get to the heart of the training content. Be sure that participants are on track before you dive into the content or the course preview. Hook your listeners into the topic early in the presentation by using attention-getting examples and demonstrating the value of the course.

Assumption: "Participants will remember the points that the trainer thinks are most important."

The reality is that after most 10-minute presentations listeners remember only 50 percent or less of the information that was given. So the odds are against participants remembering all the points in a training session. The odds that they will recognize the items that the trainer believes are the most important are also low.

Without specific cues from the trainer, participants are likely to remember the first and last ideas that are presented, whether they are the most important or not. Other items remembered most frequently are specific facts, numbers, and interesting examples. If the most important points in your session do not fall into any of those categories, then there is little chance of them being retained, unless you work to raise the odds.

You can do that by previewing major points in your introduction, providing summaries of important information at various times throughout your presentation and highlighting key ideas in your conclusion. Reinforce main ideas with interesting and compelling examples. Because participants remember most what they hear first and last, state the most important points at the beginning and end of the presentation.

You can also help participants retain information by having them review important points from exercises, films, and discussions. Use specific verbal and nonverbal cues to emphasize important points. Increases in vocal variety, volume, and emphasis—and changes in facial expressions and gestures—will suggest to trainees which ideas are important.

Assumption: "Participants finish listening when trainers finish talking."

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The reality is that participants tune out whenever they want to. It may be after your opening sentence, or it may be 30 seconds from the end. But when participants' listening energy runs low, they will tune out, even if you are still speaking.

Trainers sometimes forget that it is the listener and not the speaker who decides how and when to listen. And the longer the trainer talks, the less likely it is that participants will stay tuned in all the way to the end.

Fight listener "tune-out" by keeping your presentations brief. Look for ways to cut irrelevant or unimportant material.

Use variety in your presentations to wake up participants who may have tuned out earlier. Get people involved throughout the presentation. Ask rhetorical questions, get participants to take part in exercises, or suggest ways for them to visualize what you are saying.

Plan breaks strategically. Instead of one long break in the morning and one in the afternoon, schedule two short ones in the morning and two short ones in the afternoon.

And be sure to leave time for questions throughout your presentation so that participants who have tuned out can become involved again.

Assumption: "Participants accurately repeat what trainers tell them."

Who are we kidding? Most of us have observed the "rumor game," in which a message is transmitted through five or six people and repeated at the end. The final version rarely resembles the first message.

Repeating a message accurately is difficult, even if it is your own message. The task is even more difficult when it's someone else's message. Memory limitations as well as differences in language interpretation, personal interests, and priorities make it hard to repeat accurately information we hear. Participants perceive, remember, and repeat ideas based on their own frames of reference and value systems.

You can help trainees accurately understand and remember training content. Provide written reinforcement for the most important messages of your presentation. Use visual aids during the presentation, including accurate spellings of critical words and phrases.

Repeat important information at least three times, and ask trainees to repeat the information before they leave. Make the information more vivid and relevant by sharing personal examples, role-playing new techniques, or creating case studies. Such approaches make it easier for participants to reinforce the learning by applying it to their work situations.

Assumption: "Participants process information the same way the trainer does."

We all know there are myriad techniques and styles for presenting information. Many people assume that others prefer to have learning presented as they themselves would.

In other words, trainers with technical backgrounds often include many statistics, equations, and professional terminology in their presentations. Those with nontechnical backgrounds are likely to use personal examples, illustrations, and familiar language. Many trainers believe that participants are interested in the same facts, examples, and points that they are interested in.

Unfortunately, what works for one learner may not work for another. One person may want "just the facts" while another person wants to see "the big picture."

It is critical for trainers to remember that participants prefer different approaches to organizing and listening to information.

Analyze the characteristics of your audiences in advance. Determine appropriate kinds of examples, support material, and structure. Especially when working with a mixed group, such as men and women, executives and hourly employees, or people with varying levels of education, attempt to provide information that can engage all segments of the audience. Have participants interject their own examples and illustrations.

Because people learn at different rates and in different ways, attempt to vary the pace of training. Organize the content carefully; use humor when possible.

Assumption: "Participants ignore distractions such as the trainer's appearance body language, or mannerisms, and the room's appearance, lighting, or temperature."

When we assume that participants are listening, we sometimes fail to consider how internal and external factors influence their listening abilities.

Instead of focusing on what we are saying, many participants focus on what we are doing. If the topic or discussion gets a little repetitive, or if the trainer fails to relate to the listener, then a trainer's out-of-date clothing, change jiggling in his or her pockets, dangling jewelry, and verbal mannerisms become more interesting than the training content.

And when the room is hot, the chairs are uncomfortable, the blinds are open, or the lighting is low, participants can find it difficult to pay attention to the trainer, especially if the trainer is less than charismatic.

The best suggestion for overcoming this obstacle is simply to anticipate and adjust factors that may take participants' attention away from the real message.

Think of ways to monitor your own distracting behaviors. Put pens or pointers out of reach if you tend to finger them during presentations. Consider the size of the room, the furniture arrangements, the lighting, and the temperature. If possible, adjust them to meet the needs of the message and participants.

During the presentation, be aware of participants' needs. If you're working with a group that is accustomed to being active, give shorter, more frequent breaks than you normally would. After lunch, when participants' stomachs are full, some trainers keep the temperature a little cooler than usual to help people stay awake.

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Assumption: "If participants understand and agree with the information presented, they are likely to apply the newly learned principles on the job."

The key to this assumption is motivation. If the participant is highly motivated to apply course principles, then the assumption is not dangerous at all. But assuming high motivation is often dangerous.

Even when trainees indicate immediately after listening to your presentation that they will follow through with some action plan, the reality is that they will not—unless they have some motivation for doing so.

You can help motivate participants by explaining how and why they will benefit from acting on newly acquired knowledge. Explain why failing to follow through could be costly or painful. To be effective in motivating action, rewards and punishments need to be carefully adapted to the values and needs of the participants.

Get any participants who work together to commit to helping each other apply course principles or change behaviors. And use follow-up methods such as phoning them; sending reminder cards, letters, or related articles; and talking with them face-to-face. Such techniques can prompt participants to act.

It would be wonderful to have highly motivated listeners, but the reality is that we rarely have this luxury. Most training participants are easily distracted and are not highly motivated—even to listen, let alone to act on what they have heard.

TDY 93/94 IN BRIEF

TRAINING WITH ADULT NEEDS IN MIND

Source: "For Motivated Trainees—Teach Adults," by David R. Torrence, *Performance & Instruction*, March 1992, pp. 22-26

All too often, this author charges, trainers fail to instruct adults as adults, falling back on the roles of teacher and pupil that were modeled for them in school. This article examines ways in which adult students differ from children, and then it offers advice on training successfully by keeping adult personalities and interests in mind. Adult training strategies discussed include:

- **Involve adults in decision-making** within the learning process.
- **Make learning active**, with hands-on practice whenever possible.
- **Relate learning to the real world** by establishing (1) how the material relates to existing work tasks, (2) how knowledge of the material relates to the total working conditions of the company, and/or (3) how the material will relate to the future of the industry.
- **Facilitate personal evaluation** along with positive reinforcement from the instructor.
- **Vary instructional techniques**, since adults respond most positively to variety in learning experiences. (AN136)

DEFUSING SUBCONSCIOUS HOSTILITY TO TRAINING

Source: "How Can We Help One Worker?," by Otto Altorfer, *Journal for Quality and Participation*, July-August 1992, pp. 88-93

External resistance to training, says the author, is often only a surface symptom: the root of a trainee's problems lie mostly in internally-based resistance, which group-oriented training tools cannot address adequately. Internal resistance prevails, he explains, when habitual thoughts, feelings, or behaviors in the subconscious come in conflict with new thoughts, feelings, and intentions in the conscious mind. In this light, they must be seen as a natural function of the intelligence, assuring consistency and integrity within the individual. Visualizing the mind as an iceberg, with its vast quantity of resistance elements well below the surface, the author discusses the possibilities of using attitude education and management to modify and de-activate the automated processes of the mind so that the conscious mind can take charge of choice and decision-making. He notes 2 conditions that must be fulfilled in order to modify the subconscious: (1) the new attitude must be exposed to the subconscious mind over a sustained period of time in firm, gentle, patient ways—holding the new attitude in conscious awareness for 10 or more minutes for 4 or 5 days, and (2) the conscious mind must deal with resistance presented by the old attitude. The author also outlines a 5-step validation and response procedure for this type of change:

1. Being aware of the undesired automatic response,
2. Designing a validation of new desirable attitudes,
3. Repeating the validation, and imaging feelings and experiences of the new attitude,
4. Collecting responses from the inner mind, and
5. Re-aligning validation when appropriate. (AN137)

ADDRESSING TRAINEE CONCERNS

Source: "Common Concerns Checklist," by Cynthia Howe Merman, *Training & Development*, February 1992, pp. 22-23

How can the trainer overcome trainee concerns and motivate trainees to learn? The author suggests a "Com-

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on Concerns Checklist," to which participants are asked respond privately in writing, adding any items not cluded. The question is: "Which of these thoughts out this training program have crossed your mind day?" The list of choices includes items such as: (a) the tures will be boring, (b) discussions will drag on, (c) all the material will be covered, (d) breaks will be too apart, and (e) I will not fit in with this group. After ticipants have completed the checklist, they are asked iscuss their responses with the total group, in small ups, or in pairs. Results are listed on a flip chart and onded to as needed. The author believes that this nique taps participant curiosity, enhances the spirit of peration, clarifies non-negotiable issues, sets guide- for later discussions, and keeps the trainer in tune the participants. (AN138)

N IN TRAINING

rce: "On Target: Creativity in Training," by les Dervarics, *Technical & Skills Training*, mber-December 1992, pp. 32-34

aining and fun do mix, this author says, adding that more and more trainers are devising creative ways ture the attention of their audience and gain results process. In this article, the author interviews 3 g professionals: (1) Edie Greene, president of Edie Associates/Group Games Plus, (2) Barry Sagotsky, ement training manager for Schering-Plough Corp., Robert Pike, president of Creative Training Tech- s International. The objective is to determine terviewees' philosophies on fun in training and chniques for making it work. Believing that reduces stress and helps people work together confront their problems, Greene incorporates and light-hearted games as regular ingredients of ning sessions. Magic is an integral part of 's training "bag," and it is often scattered through- aining sessions as a means of engaging partici- d getting them to feel relaxed and comfortable. g," concludes Pike, "is directly proportional to nt of fun you have." (AN139)

TRAINING AS A PSYCHOLOGICAL CONTRACT

Source: "Developing the Learning Climate in Public Sector Training Programs," by Ronald R. Sims, *Public Personnel Management*, Fall 1992, pp. 335-346

Developing the learning climate in public sector training programs requires careful attention by the public agency trainer. In this article, the author first looks at the characteristics of a training environment and its basis in a psychological contract of reciprocity. This give-and-take process is particularly important, the author says, because many of the assumptions about learning run counter to it. Other characteristics of the training environment are: (1) its base in experience, (2) its emphasis on personal application, (3) its individual and self-direction, and (4) its integration of learning and living. The author proceeds to examine the nature of the psychological contract, as well as the expectations and contributions of both trainer and trainee. He sees the training process as a dynamic one, and he offers advice for thinking about the training process in ways that could raise warning signals of problems and reinforce norms of encouraging trainees to evaluate their own progress. The psychological contract is viewed by the author as a cyclical process involving 4 phases: (a) the sharing of training information and the negotiation of expectations by staff and trainees during open discussion, (b) mutual commitment to defined roles on the part of both staff and trainees, (c) implementation of the training program, resulting in stability and productivity, and (d) a new state of disruption caused by the emergent and individualized nature of the training process, at which point training begins again. Warning signs that this system may be breaking down include: (1) trainee boredom, (2) the trainer's sensing that preparatory assignments have not been completed, (3) training sessions not starting on time, and (4) trainees not actively participating in activities or speaking up in discussion. The author poses several examples of questions that may be asked to clarify the contractual nature of the training. (AN140)

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D. TRAINEES WITH SPECIAL NEEDS

ON TARGET: TOOLS TO TRAIN PEOPLE WITH DISABILITIES

by Robert L. Reid

As the Americans with Disabilities Act (ADA) takes effect in the workplace this month, technical trainers must be ready to accommodate the needs of trainees with disabilities. ADA specifically references "modification of... training materials or policies" under its definition of reasonable accommodations. Such accommodations can be extremely simple or technologically sophisticated, depending on the trainees' needs.

For instance, in a building without elevators, moving a training classroom from an upper floor to the ground floor for better wheelchair access is (literally) a low-tech accommodation, one expert explains. Or the accommodation can involve advanced "adaptive" technology, such as the device that enables a person with severe physical disabilities to speak through a synthetic voice by using an eye-motion tracking system to select words from a computer screen.

In between such extremes are options such as recording training manuals on audio cassettes, adding captions to training videos, and providing trainees who are disabled with simple tools that help them use computer keyboards.

Depending on the accommodation used, costs range from zero dollars to several thousand dollars, with tax breaks available to offset some of the expense (see "Adaptive Assistance" sidebar).

The experts interviewed here offer a brief introduction to the adaptive technology available today. With ADA providing the incentive for further innovations, this list of tools will undoubtedly grow.

D.J. Hendricks
Assistant Project Manager, Job Accommodation Network, Morgantown, West Virginia

Created in 1983 by the President's Committee on Employment of People with Disabilities, the Job Accommodation Network (JAN) is an information, consulting, and referral service concerning employment issues for workers who are disabled, explains D.J. Hendricks. Through its toll-free telephone lines, JAN handles more than 700 cases a month, most of which involve manufacturers, service companies, and the transportation or public utility industries.

The disabilities discussed range from sensory impairments (such as vision or hearing loss) to motor skill impairments (such as paralysis or loss of limbs) to learning disabilities (which include difficulties in reading, writing, and using numbers), Hendricks explains.

The tools and techniques to help train workers with these disabilities cover a wide range, also. Starting with the simple—and inexpensive—solution of relocating a training classroom to ground level, Hendricks points to numerous accommodations and their related costs:

- Wrist supports for trainees who suffer from repetitive motion injuries to reduce strain and prevent further injury while using computer keyboards (about $15 to $20)
- Tape recorders for taping a set of job-related instructions (roughly $40)
- Computer software to check spelling or grammar for trainees with learning disabilities (about $50 each)
- Speech synthesis hardware and software to enable a trainee who is blind or visually impaired to use a talking computer (between $1,300 and $1,900)
- A closed-circuit television system to enlarge the type on training documents (between $2,000 and $3,000)
- Braille printers for producing training manuals and other documents ($2,000 to $3,000).

Some Braille printers even produce graphics, such as maps, in a raised format, Hendricks notes. These are useful for training employees in building layouts. In fact, such raised maps can also be attached to corridor walls to help trainees with visual impairments find training rooms, etc.

Trainers who need to accommodate trainees with learning disabilities during written tests have several options, Hendricks notes. If the test is timed, allow extra time for a trainee with a learning disability. Or drop the time restraint altogether. To overcome spelling disabilities, the trainee could take the test verbally, with the answers recorded on tape and written out later by someone in the training department.

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Adaptive Assistance

Tax breaks and other financial incentives can help offset the expense of complying with the Americans with Disabilities Act (ADA). Here are some examples:

- ***The Disabled Access Credit*** offers up to $5,000 in tax relief annually to eligible small businesses, which include employers with either 30 or fewer full-time employees or sales of less than $1 million during the previous year. To qualify, the employer must spend at least $250—but not more than $10,250—on accommodations for employees with disabilities, such as removing barriers, providing qualified interpreters or readers, acquiring taped texts or other adaptive equipment, modifying equipment or devices, etc.
- ***The Architectural and Transportation Barrier Removal Deduction*** offers up to $15,000 in tax relief if a company makes a facility or public transportation vehicle more accessible for people with disabilities. The definition of facility covers all or any part of a building, structure, equipment, road, walk, parking lot, or similar property. The deduction may not be used for new construction, complete renovation of a facility, or for normal replacement of depreciable property.
- ***The Targeted Jobs Tax Credit*** offers employers up to $2,444 in tax breaks during the first year of employment for each employee hired from nine targeted groups, which include people with disabilities.
- ***The Job Training Partnership Act*** reimburses employers who set up on-the-job training or other job-related services for an economically disadvantaged individual—including eligible individuals with disabilities—for 50 percent of the first six months of the employee's wages.
- ***The Rehabilitation Act of 1973*** authorizes funding to state vocational rehabilitation agencies that offer partial reimbursement for the wages of employees with disabilities. Payment is for a limited time and on a negotiated schedule. These agencies also offer rehabilitation engineering services for worksite modifications.

Trainees with severe physical disabilities can still turn the pages of a training manual using electronic page-turning devices, operated by blowing into a tube, Hendricks says.

For trainees with hearing impairments, training rooms can be equipped with sound amplification systems accessed through earphones, Hendricks says. Or, employers can hire sign language interpreters for trainees who are deaf, she adds. Hendricks suggests holding train-the-trainer classes in sign language for trainers working with trainees who are hearing impaired. In fact, a general training class to familiarize co-workers with all the various accommodations being used is also a good idea, she says.

Eldon Nelson
Program Manager, Job Training and Disability Assistance Programs, International Business Machines Corporation, Atlanta, Georgia

IBM manufactures adaptive equipment and is itself a resource to help trainers work with trainees who have disabilities, Eldon Nelson explains. For instance, the company's Screen Reader system converts computer text to synthetic speech for employees who are blind or visually impaired. But while Screen Reader costs about $600, it cannot function unless the user also has a computer system, which can cost $3,000 to $4,000, Nelson notes.

To widen access to such technology, IBM has loaned at no charge $4.5 million worth of computer equipment and software to state programs for training people with disabilities. In addition, since 1972, IBM has helped establish 48 job training centers nationwide to train people with disabilities in information processing skills.

And the company maintains a Special Needs Information Referral Center in Atlanta that offers a toll-free number for people seeking information on adaptive equipment for personal computers. The referral center will even put a caller in touch with resources sponsored by IBM competitors such as AT&T and Apple Computers, which offer similar referral services (see "Adaptive Resources Checklist"). In addition to the synthetic speech system, Nelson notes, IBM also manufactures three other adaptive devices with training applications:

- *AccessDOS* offers special controls for IBM DOS users that benefit trainees with disabilities. For instance, the StickyKeys feature lets a user press each key separately for multiple key operations—an activity difficult for someone with certain motor skill impairments. Likewise, RepeatKeys lets a user (1) set the speed at which a depressed key repeats itself or (2) shut off the repeating function altogether. MouseKeys lets a user simulate using a mouse by striking keys on the numeric keypad—again, an easier activity for trainees with impaired motor skills. For users

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TDY 93/94 CASE STUDY: EMPLOYING THE DISABLED AT McDONALD'S

Source: "Focus on Ability," by Carole McMichael, *Employee Assistance*, July 1992, pp. 30-31, 35-37

McDonald's has been hiring the mentally and physically impaired since the mid-1960s. Over that period, the company has hired more than 9,000 handicapped workers through its McJobs program, which teams job coaches, vocational rehabilitation liaisons, and restaurant managers together to help workers acquire job skills, independence, and self-confidence. Coaches come from the ranks of assistant managers who have achieved "good" performance ratings and 100% ratings on station observation checklists. The work site is then prepared to receive the McJobs candidate, who will eventually work at that restaurant as a permanent employee. The author describes the sensitivity training that managers and co-workers undergo to dispel their myths about disabilities, and she stresses the importance of training activities which help non-impaired personnel to empathize with the handicapped. She explains the interview and selection processes and the training schedules, which are blocked out a year in advance, and she outlines some of the training accommodations that have been undertaken to meet worker needs and the requirements of the Americans with Disabilities Act. McDonald's is pleased with the program, which focuses not on bringing disabilities into the workplace but on offering equal opportunities to all applicants, and managers are pleased not only with the "performance, and punctuality, but also the attitude" of their McJobs employees. (AN141)

who are hearing impaired, ShowSounds makes the screen blink or display a small graphic to indicate certain functions are in operation.

- *KeyGuard* is a molded keyboard overlay with holes that isolate each key. Trainees with impaired motor skills can use the guard to strike the correct key, rather than possibly striking the wrong key or several keys simultaneously. The guard also serves as a handrest.
- *VoiceType* is a speech recognition program that allows users with physical disabilities to operate a computer by speaking into a microphone, which can be worn on a headset. The system stores speech patterns from multiple users, along with macro commands that allow as many as 1,000 keystrokes to be activated by a single utterance.

Paul Hazan
Project Director, Johns Hopkins National Search for Computer Applications to Assist Persons With Disabilities, Johns Hopkins University, Applied Physics Laboratory, Laurel, Maryland

When Johns Hopkins University conducted its first national search for adaptive technology in 1981, the field was a "fledgling industry... people were doing things in their basements," explains Paul Hazan. Personal computing—which Hazan hoped could become a building block for adaptive tools—was equally embryonic. Moreover, adaptive equipment in the early 1980's often met just the specific needs of the person it was designed for—most devices could not readily be used by other individuals.

And even though the 1981 search resulted in several entries that later became actual products that employees with disabilities can use on the job or in training courses, the process was slow. In fact, that slow development period led Johns Hopkins to wait 10 years before launching a second national search—which began in 1991 and concluded this past February, just as ADA was accelerating interest in adaptive technology.

Hazan calls the timing "lucky," a coincidence which should speed up the conversion of last year's entries into viable products much sooner than after the 1981 search. These new products could gain wide attention and distribution within five or so years, he predicts.

The growth of personal computing also helps. Ten years ago, Hazan notes, Americans owned only a few hundred thousand personal computers compared with more than 20 million PCs today. With many adaptive systems based on PC technology, these tools are no longer limited to only the specific needs of a few people, he explains.

The National Science Foundation, MCI Communications Corporation, and Microsoft sponsored the national search in 1991.

Commercially available products with training applications from Johns Hopkins' two national searches include the following:

- *Total Talk* (1981), from Blazie Engineering in Street, Maryland. This computer terminal features a voice system that reads whatever has

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Adaptive Resources Checklist

For trainers interested in more information on adaptive technology, here is a partial list of available resources:

Alliance for Technology Access
1128 Solano Ave.
Albany, CA 94706
510/528-0747

American Foundation for Technology Assistance (AFTA)
Route 14, Box 230
Morganton, NC 28655
704/438-9697

AT&T National Special Needs Center
2001 Route 46, Suite 310
Parsippany, NJ 07054-1315
800/233-1222

Center on Evaluation of Assistive Technology
National Rehabilitation Hospital
102 Irving St., N.W.
Washington, DC 20010-2949
202/877-1932

Electronic Industries Foundation
Rehabilitation Engineering Center
919 18th St., N.W.
Suite 900
Washington, DC 20006
202/955-5810

IBM Special Needs Information Referral Center
P.O. Box 2150
Atlanta, GA 30301-2150
800/426-2133

InfoTech
University Hospital School
Room S381
The University of Iowa
Iowa City, IA 52242
800/331-3027

Job Accommodation Network
West Virginia University
809 Allen Hall, P.O. Box 6123
Morgantown, WV 26506-6123
800/526-7234

Johns Hopkins National Search
Johns Hopkins University Applied Physics Laboratory
Johns Hopkins Road MCIW128
Laurel, MD 20723
410/792-5364

The President's Committee on Employment of People with Disabilities
1331 F St., N.W.
3rd Floor
Washington, DC 20004-1107
202/376-6200

Trace Research & Development Center
University of Wisconsin
Waisman Center
1500 Highland Ave.
Madison, WI 53705-2280
608/262-6966

been entered onto its screen. Designed with 400 rules to assure that the computer speaks intelligibly, Total Talk offers a speech rate that varies from 45 words per minute to 720 words, depending on the speed the user prefers. Blazie Engineering now also manufactures Braille 'n Speak, a portable system that allows an employee who is blind to type in Braille and then hear the words spoken back or receive a printed version.

- *Eyetracker Communication System* (1981), from Carnegie Mellon University's Robotics Institute in Pittsburgh, Pennsylvania. This device enables a person with severe physical disabilities to communicate with synthetic speech using eye movements to select words from a computer screen. Although originally large, current versions are smaller than a breadbox.
- *Unicorn Smart Keyboard* (1991), from Arjan Khalsa of Richmond, California. This device features a membrane keyboard with 576 small keys that, when placed over a regular keyboard, can be grouped to form larger, custom keys to accommodate users with disabilities.
- *The Health Care Keyboard* (1991), from Jeffrey and William Szmanda of Milwaukee, Wisconsin. This ergonomic computer keyboard is divided

Disability Defined

Anyone with a physical or mental impairment substantially limiting one or more major life activities; has a record of such impairment; or is regarded as having such an impairment, is considered a person with a disability.

In terms of employment, the law defines a "qualified individual with a disability" as a person with a disability who can perform the essential functions of the job with or without reasonable accommodation.

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into three sections that can be adjusted independently to accommodate individuals who must press the keys with a stick held in their mouth or a wand attached to head gear. It also accommodates people who need to place the keyboard in a different position for each hand.

TRANSLATION, PLEASE

by George P. Rimalower

The United States workforce is becoming more multilingual. Many workers don't speak English. That fact alone can affect their safety and productivity.

By the end of the decade, the U.S. workforce will include the highest percentage of immigrants since World War I. Many of them won't know how to speak English. Their influx will greatly influence the way employers communicate with and train employees. The presence of non-English speaking workers is already changing those areas in many organizations. Here are some examples.

■ Immigrants make up a large percentage of California's workforce. Many employers are concerned that those workers won't understand job and safety instructions written in English.

Last July, the California Occupational Safety and Health Administration (Cal-OSHA) enacted a regulation that requires state businesses to clearly communicate occupational safety and health issues to their employees.

The new law means that such materials as safety and employee manuals, caution signs, and machine operating instructions have to be translated into languages that non-English-speaking employees can understand.

■ In 1987, the General Motors plant in Van Nuys, California, embarked on a plan to convert its operations from the traditional assembly-line method to a team approach.

GM scheduled two, 10-day training sessions for the plant's 10,000 employees. But the company had a problem. Nearly 45 percent of the workforce spoke only Spanish. Training sessions conducted in English would be virtually useless for almost half the employees.

GM invested millions of dollars in the training and paid employees to attend. With so much at stake, the company decided to have written material translated into Spanish. And it hired an agency to provide simultaneous interpretation during the training sessions.

The workshops, which included movie and slide presentations were simultaneously interpreted. GM used 10 interpreters. There were two interpreters per classroom, working 30-minute shifts.

GM feels that its efforts to communicate with non-English-speaking employees averted potential accidents and confusion when the new system was installed.

■ A large meat-packing company held a two-day open house for health maintenance organizations. Interpreters were on hand to help employees communicate with the health-care providers.

The interpreters helped workers understand their options before they selected insurance carriers and coverage plans.

■ The Farmer John supermarket chain, which has a diverse multilingual workforce, recently had its entire employee benefits package translated into Spanish, Vietnamese, and Laotian.

Clearly, many U.S. organizations recognize the need to provide translators and interpreters for their non-English-speaking employees. But some employers may not know where to start looking for such services.

Finding a Translator

There's no exact count of the number of translators in the United States. Many work part-time or freelance. The American Translators Association (ATA) has a membership of more than 3,000.

If an organization's requirements are for a single-language translation, a freelance translator is probably adequate.

Freelance translators are listed in the yellow pages of the phone book. Another option is to contact ATA. See the sidebar on page 5.27 for the address and phone number.

For more extensive translation services, some employers choose to hire in-house translators or use translation bureaus or agencies. An in-house translator may have other duties in the organization when he or she is not translating.

A translating and interpreting agency provides a pool of translators to choose from. Some agencies have as many as 300 to 400 translators who speak almost every conceivable language. The agency selects from its pool according to a client's needs.

Many organizations have swing shifts and night operations. They require that translators and interpreters be on 24-hour call in case of injuries or internal disputes. Generally, translators and interpreters charge extra for 24-hour availability.

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Translation costs are relatively consistent, whether you hire a freelancer or use an agency. Rates range from 12 cents to 35 cents per word. Some translators charge a flat fee for big assignments.

The more esoteric the language and the faster the turnaround time, the higher the rate per word. For example, a translation project in Ancient Greek would be billed higher than work in many other languages because it is difficult to translate.

Often, translators work with confidential material. If that's the case, you may want to have your translator sign a nondisclosure agreement. It's also advisable to obtain a written statement from a translator, which attests to his or her accuracy.

Generally, interpreters charge a three-hour minimum rate, ranging from $85 to $250.

Selecting a Translator

The following guidelines may help you select a qualified translator:

- The translator should be ATA-accredited in the required language and subject—such as law, medicine, or engineering.
- The translator should understand the actual meaning or intent of any written material, not just its literal meaning.
- The translator should have the proper equipment—such as a personal computer, and a fax machine or modem—to provide timely, legible work.
- The translator should understand the particular industry or technical jargon of the material being translated.

Why Hire a Translator?

It creates goodwill among employees to provide organizational information to them in their own languages. Translating such materials as safety regulations, policies, employee newsletters, benefit plans, and training instructions offers another important benefit to employers. It helps organizations minimize their liability by reducing the number of accidents and insurance claims.

Translators may work closely with unions to help union members better understand their working conditions, safety procedures, and benefits. Such information allows employees to judge whether they are being treated fairly by their employers.

An interpreter can help when a worker is injured. When a non English-speaking employee gets hurt, the employer should make two calls—one to the hospital and the other to an interpreter. The interpreter can meet the worker at the hospital and help discuss his or her injury with doctors. Generally, workers' compensation insurance covers the cost of an interpreter.

Doctors sometimes provide interpreters or so-called interpreters. But an employer may prefer to use its own. That way, it needn't rely on a doctor's bilingual receptionist or medical assistant, who may not be adequately trained to interpret.

Organizations that communicate effectively with non-English-speaking workers help avert disputes, reduce isolation, and alleviate feelings of mistrust among those employees.

Translation and Interpretation

The terms "translating" and "interpreting" are not interchangeable. A translator converts material that is written in one language into written form in another language. An interpreter works only with spoken words.

Even the dictionary definitions highlight the differences between the two skill areas.

To translate is defined as follows: "to turn into one's own or another language; to transfer or turn from one set of symbols into another."

To interpret, on the other hand, is "to explain or tell the meaning of; present in understandable terms," or "to act as an interpreter between speakers of different languages."

Being bilingual doesn't necessarily make a person a good translator. Translation requires specialized skills. For instance, many professional translators might consider themselves to be experts in translating English into German, but not German into English.

Who Is Using Translators?

One estimate is that organizations spend approximately $20 billion per year worldwide on translation and interpretation services.

Where is the money going?

U.S. companies with operations abroad must have employee materials and office correspondence translated into a variety of languages.

There are global markets—eastern Europe, western Europe, and Asia—for American-made goods. U.S. exports are rising. Everything from labels to product instructions must be translated.

There's also been an increase in print and electronic advertising geared toward non-English-speaking populations in the United States. Marketing departments realize that they must reach a variety of cultures within our society.

To keep up with technological and medical advances overseas, many U.S. firms routinely translate foreign research into English.

The Payoffs

Clearly, organizations bear responsibility for finding effective ways to communicate with all employees—those who do speak English and those who don't.

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Communication is a two-way exchange. Employees who have a better understanding of what is required of them tend to perform better at their work. Employers who provide safety instructions in employees' first languages see fewer mistakes and injuries on the job. And when employers and employees communicate effectively, they enjoy mutually satisfying working relationships.

Additional Resources on Translation

Dupecher, Martha. "Help for the Tongue-Tied." *Successful Meetings*, February 1991.

Explains how to locate and work with interpreters for meetings with attendees from other countries.

McIntyre, David J. "When Your Language Is Just Another Language." *Communication World*, May 1991.

Describes the trend in companies to search for employees with skills in more than one language and culture, as well as an increase in the number of companies sending managers to learn foreign languages.

Mendelson, Abby. "The Invisible Man." *Communication World*, August 1990.

Presents a profile of a professional interpreter and the skills needed to succeed in the field.

Moller, Barbara. "Multilingual Video." *Training & Development Journal*, January 1991.

Explains the need to make translations of training videos not only grammatically correct, but also culturally correct.

Nadler, Leonard, and Zeace Nadler. "Overcoming the Language Barrier." *Training & Development Journal*, June 1987.

Presents recommendations for how to make a presentation when using an interpreter.

Reynolds, Angus. "Training That Travels Well." *Training & Development Journal*, September 1990.

Presents guidelines for translating automated training programs into foreign languages.

Sheldon, Keith A. "Build Bridges With a Multilingual Speakers Bureau." *Communication World*, August 1990.

Explains how one company, Southern California Edison, created a multitingual speakers bureau, listing employees who are fluent in both English and another language. The services of the speakers bureau are available to community and civic groups.

Stanton, M. "You're a What? Simultaneous Interpreter." *Occupational Outlook Quarterly*, Spring 1988.

Explains the difference between being a translator and being an interpreter; describing the skills that are necessary for succeeding in each position. Identifies major employers for interpreters.

Thwaite, David. "Automatic Interpreters" (part 1). *Systems International*, February 1988.

Explains how a computer-assisted translation (CAT) system translates documents into another language—with an 80 percent success rate.

Organizations to Contact for More Information

American Society of Interpreters
Box 9603
Washington, DC 20016
703/998-8636

American Translators Association
109 Croton Avenue
Ossining, NY 10562
914/941-1500

Compiled by Edith L. Allen, ASTD Information Center

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IN BRIEF

TRAINING EMPLOYEES TO TRAIN THE DISABLED

Source: "Accommodating Workers With Mental Disabilities," by David Mank, *et al.*, *Training & Development*, January 1992, pp. 49-52

The Americans with Disabilities Act of 1990 is designed to provide a mandate for the elimination of discrimination against people with disabilities. While debate still lingers over the legal and financial ramifications of the Act, these authors say that companies must begin to consider proactive training strategies that will enable them to meet the spirit of the law, as well as the corporate necessity of maintaining a diverse workforce. In this article, they look at research conducted jointly by NEC America's Oregon plant and the University of Oregon to determine the ability of fellow employees to train severely disabled workers after a 2-day seminar on training techniques. The training was conducted within NEC's workforce, with 5 inexperienced employees from each department being trained and in turn training 5 other employees who were labeled as having mild to severe mental retardation. The result of the program was that the disabled workers were eventually able to rely almost entirely on their own skills for task completion—with trainers having to supply only minimal support. The authors explain that, like any other successful training program, this one embodies 3 principles: (1) it provides the right type and amount of assistance, (2) it measures the learning so that the trainer knows where greater precision or more effective assistance and reinforcement are needed, and (3) it uses reinforcement to strengthen the learning that has taken place. (AN142)

PROGRAMS TO EMPLOY THE DISABLED

Source: "Programs That Lead the Way in Enabling People with Disabilities to Work," by Carolyn Wiley, *Employment Relations Today*, Spring 1992, pp. 31-38

Of the 43 million Americans considered disabled, says the author, 42% of the males and 20% of the females are employed. She describes the provisions of the Federal Rehabilitation Act (1973) and the Americans with Disabilities Act (1990), includes the definitions of disabled persons, and reviews the outcome of court cases related to disabilities and employment. A sidebar outlines 5 myths and realities about hiring disabled individuals. The remainder of the article highlights several projects designed to take affirmative action toward employing disabled individuals:

- Project Ace in the Great Falls (Montana) Public Schools,
- IBM's National Support Center for Persons with Disabilities in Atlanta,
- Marriott Corporation's Training Program for the Mentally and Physically Challenged,
- IAM CARES, the International Association of Machinist and Aerospace Workers Center for Administering Rehabilitation and Employment Services, and
- McDonald's Restaurants' McJobs program. (AN143)

LEARNING DISABILITIES IN THE WORKPLACE

Source: "Uncovering Learning Disabilities Can Enhance Job Performance," by Carol R. Hirshfield and Dale S. Brown, *Employment Relations Today*, Spring 1992, pp. 39-41

The Americans with Disabilities Act (ADA) broadly defines the term "disabled" to encompass a wide variety of disabilities: physical, mental, medical and learning. This article focuses on the recognition of the various learning disabilities that may hinder an employee's progress: (1) visual, (2) auditory, (3) motor, and (4) tactile. The article also stresses the importance of matching the job to the person, finding positions that take advantage of the disabled person's strengths while minimizing his or her weaknesses. A few examples of low-cost adaptations that can be made to accommodate the disabled employee are also mentioned. (AN144)

NEUROLOGICAL DISORDERS IN EMPLOYEES

Source: "Tracing Workplace Problems to Hidden Disorders," by Peggy Stuart, *Personnel Journal*, June 1992, pp. 83-95

Neurobiological disorders in the body's chemistry or in the anatomy of the brain may be the reason why an otherwise bright and capable employee exhibits undesirable and even seemingly hostile behavior. In this article, the author looks in depth at the disorders that most often appear in the workplace: (1) attention deficit disorder (ADD), (2) depression, (3) obsessive-compulsive disorder, (4) narcolepsy, and (5) Tourette syndrome. Nearly 20% of employees have at least a mild form of these disorders, says the author, and many do not have any idea what is wrong with them. The Americans with Disabilities Act may require employers to provide for these employees. Research into these disorders, and medications which can help are discussed here, as is the danger that these disorders can often lead to various substance abuse problems. Problems in accommodating these

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workers and providing them with effective insurance programs are also mentioned. (AN145)

CLOSED CAPTIONING

Source: "Learner Diversity and Instructional Video: Implications for Developers," by Alan M. Hofmeister, *et al.*, *Educational Technology*, July 1992, pp. 13-16

Several recent federal laws have required closed captioning to be a feature of new technologies, including the Television Decoder Circuitry Act of 1990, the Individuals with Disabilities Education Act of 1991, and the Americans with Disabilities Act of 1992. Captioning can also be a valuable tool for use with the growing number of older persons in the workforce. Studies indicate, however, that 40% of closed captioning decoders are being purchased, not by the hearing impaired, but by people who need to: (1) strengthen their comprehension of specific television programs, (2) improve their English language skills generally, (3) train workers who work in noisy environments, and (4) serve clients who patronize noisy places such as bars and sports arenas. The authors warn that captioning for training purposes must be integrated as part of the entire development process, and not just as a verbatim add-on to satisfy regulations. Reading skills of learners must be taken into consideration, and the authors suggest eliminating "encyclopedic lists" of vocabulary to be learned by rote, as well as including: (1) carefully placed, jargon-free advance organizers, (2) graphic organizers, (3) texts that eliminate obsolete, redundant, or irrelevant terminologies, and (4) video programs that use printed scripts to summarize and supplement the visual presentation. (AN146)

ADAPTING TRAINING FOR OTHER CULTURES

Source: "Adapting Training for Other Cultures," by Keith Morical and Benhong Tsai, *Training & Development*, April 1992, pp. 65-68

People learn better when they can connect what they are being taught to their own experiences. Therefore, when training programs are used in a different culture than they originated in, they must undergo cultural adaptation. The authors discuss the principles of effective cultural adaptation:

- **Model.** Have a cultural expert and a program expert examine a program together to ensure that the core concept can be meaningful in the new culture.
- **Modularization.** Design the course in short modules so that various segments may be revised without having to revise the whole package. The authors suggest producing two sets of graphic and video components—one with words and one without—to make translation easy.
- **Manual.** Annotate the trainer's manual with guidelines for changing the material to meet local needs while maintaining the program's integrity. Clear objectives, notes on what activities should not be modified, a design flowchart of course structure, and inclusion of research information in the manual will aid in making the necessary adaptations. (AN147)

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Section 6
Training Techniques

Is it an exaggeration to say that the techniques make the trainer? Of course, one has to use techniques judiciously and skillfully, but that's part of technique, too, isn't it? Any way you look at it, this section cuts to the heart of what it means to be a trainer. Whatever professional growth we achieve usually involves refining and adding to our personal store of useful techniques, and in this section you will find many ideas that will be of help—whether you find yourself standing in front of a class or planning some experiential exercise.

We begin with a wonderful article by master trainer Chip Bell on "The Trainer as Storyteller." This is one of those training techniques that is so fundamental that it is rarely written about, but this particular article covers the subject thoroughly, with numerous bits of practical advice for enhancing the reader's storytelling skill. Continuing the subsection on "Classroom Training Techniques," there is an article on writing effective case studies for classroom use, and another on the use of the penboard, which even includes an instrument for evaluating presenters on their use of the penboard. The final article in this subsection addresses the "horrors" or unexpected problems that every stand-up trainer faces. It gives a number of suggestions for minimizing risks and heading off imminent disasters.

Although the trainer will always have a role as a presenter and as a facilitator of dialogue, it is clear that the trend is toward experiential learning. As in previous editions of TDY, we look at this subject first from the perspective of "Experiential Learning in the Classroom." The highlights of this subsection are two articles on simulation. The first one offers pointers on designing a simulation and using it successfully; the second gives an extraordinarily detailed model for selecting an instructional simulation.

Turning to "Experiential Learning on the Job," you will find an article with guidance on how to set up systematic on-the-job training, based on a model used at Los Alamos National Laboratory. This is followed by an article that takes a broader perspective on learning from experience. In it, well-known British author Peter Honey relates experiential learning to his model of learning styles and gives a wealth of ideas that will help the reader maximize opportunities for on-the-job learning for themselves and others.

Outdoor training is a specialized form of experiential learning, and we have devoted a special subsection to it again this year. The lead article addresses the common problem of undertaking outdoor learning without a proper sense of its objectives. Through a series of probing questions, the author gives the reader a way of structuring any outdoor program to help ensure its effectiveness. Then the following article takes a deeper look into the educational value of outdoor training, presenting a model that can be used to subject a program to much more rigorous evaluation than you might have thought possible.

This section concludes with an article on "self-training"—not a trainer's technique at all. It addresses the realistic problem of providing training for those who cannot be served by formal training—whether through geographical distance or simply the unavailability of sufficient training resources. The highlight of this article is two pages of detailed strategies for implementing self-training. Finally, it's worth noting that, as in the other sections of TDY, there are dozens of abstracts that highlight the many other training techniques that were covered in the past year's HRD literature.

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- How to Escape Your Training Horrors, *by Betsy Pickren and Roy J. Blitzer* 6.12

B. Experiential Learning in the Classroom

- 10 Secrets of Successful Simulations, *by R. Garry Shirts* 6.16
- Simulations: Selection and Development, *by Walter W. Wager, Stuart Polkinghorne, and Roger Powley* 6.20

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(continued)

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- Clarifying the Confusion: A Practical Framework for Evaluating Outdoor Development Programs for Managers, *by Paul Dainty and Donna Lucas* 6.47

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A. CLASSROOM TRAINING TECHNIQUES

THE TRAINER AS STORYTELLER

by Chip R. Bell

People love stories. They love to tell them and they love to hear them. A really good story makes a campfire worth lighting, a cocktail party worth attending, and a reunion worth holding. A story can evoke tears and laughter. A good story can touch something familiar in each of us and, yet, show us something new about our lives, our world, and ourselves.

Stories can also be powerful tools for growth and learning. They can reach resistant learners in ways that even well-delivered lectures may not. Unlike conventional lectures, stories have a way of circumventing the mind's logic to capture the imagination. In this round-about way, they can lead to learning.

Trainers as Storytellers

Trainers can use stories to entertain, inspire, or instruct—or to do all three. Most stories are either crafted or chosen. The crafted ones are "baked from scratch"; the chosen ones are "recrafted"—in other words, tailored to fit the storyteller, audience, and learning objective. The objective is paramount. Stories without purpose obviously lack relevance, but they also tend to lack charm.

Whether a trainer chooses to craft or recraft a story, several key steps are involved. The first step is to clarify a story's purpose. Here's a checklist of questions to ask oneself:

- What key learning point do I hope to convey with a story?
- By using a story, am I indulging in irrelevant fantasy? Is the point best communicated by analogy?
- Does the point warrant the time that's required to tell a story? Or do I need to make the point quickly and move on?
- Are listeners likely to appreciate the point if it's conveyed by a story? Or are they likely to be literal minded and view stories as "much ado about nothing"?
- Do I know how to tell a story?

Most people can learn to tell stories well, but some may find storytelling so challenging that they prefer to use other approaches. If you decide to incorporate a story into a training program or presentation, you may find it helpful to structure your story around the following elements: the context, the challenge, and the climax.

The Context

The story's context establishes the setting or scene. It's the "once upon a time" part that invites listeners into the story. In a sense, the context allows listeners to become witnesses to the visions of the storyteller.

The first step in creating the context is to write down the story so you can critique it and measure the time it takes to tell it. A story should start with a transition that uses words or cues—such as a long pause—to signify that a story is beginning. Listeners shouldn't wonder why you are telling them what you're telling them, and they shouldn't be asking themselves, "Where does this fit in?"

In a story told in a service-management workshop, the storyteller opens with this transition: "I have for some time carefully observed how service providers deal with service recovery, the process used to turn customer disappointment into delight. Recently, I had a chance to watch effective service recovery in action...."

After the transition, it's important to create a realistic backdrop. Often, a story takes more time to relate than it takes to happen, so you should allow enough time to set the scene.

The storyteller from the service-management workshop stages the scene this way: "It was high noon! I was en route to a 12:30 meeting downtown, and I knew that lunch wasn't in the cards, unless I stopped at Hardee's for an order to go. I pulled into the parking lot and saw that the cars in line for the drive-in window were backed up for a mile! So, I decided to go into the restaurant and get in the long indoor line instead...."

Even well-told stories often violate grammatical rules. They commonly shift between the past tense and the present. The past tense tells what happened; the present tense is acted out.

For example, the story here shifts back and forth between tenses as follows: "Finally, after I patiently worked my way up to the counter, I gave my order to the clerk. 'I'd like a chicken sandwich, a Diet Coke, and a small order of fries to go,' I say.

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She said, 'We're out of chicken sandwiches at the moment.' We have some cooking. It'll be just a few minutes. Do you mind if I wait on the customer behind you?' she asked politely.

I often frequent fast-food restaurants at busy times, so I realized this wasn't an unusual situation. 'Fine,' I say. I moved aside to allow the customer behind me to step forward...."

When creating the context of your story, ask yourself the following questions:

- What do I want listeners to feel?
- How can I build a sense of adventure, mystery, suspense, joy, or invitation?
- Will listeners be able to visualize the scene I have in my mind?
- Will listeners be able to identify with or relate to the story and the picture I've painted?

The Challenge

A good story should contain a challenge, which can also be described as "dissonance."

To communicate dissonance, it's important to create a dilemma that listeners can identify with. For instance, most people can identify with having to wait in line at a fast-food restaurant.

"The clerk at the front counter served the next customer. Then she turned and checked with the kitchen. She waited on another customer and then pleaded with the kitchen for my order. Another customer got his order, and she again chastised the kitchen, 'Where's my chicken sandwich? I have a customer waiting.' She served another customer. Still no chicken sandwich.

"After five customers ordered and left with their food, my politeness began to turn to 'perturbness.' As I watched the big hand on my watch move around, I realized that I was going to be late for a very important meeting—and still no order! I'm now seething, ready to let the people over in the next county know just what I think of this fast-food, slow motion experience...."

Once you've created a dilemma, you should describe in your story plan the challenge for each of the key characters, using one sentence. For example, "John's challenge is such-and-such. Sue's challenge is such-and-such." This can help you keep things straight or "manage" the story.

The following questions can help you create dissonance:

- What do I want listeners to feel?
- How can I build a sense of concern, conflict, or suspense?
- Will listeners be able to identify with or relate to the dilemma?
- Will listeners be able to visualize the challenge or challenges the same way that I do?
- Will the dilemma create enough dissonance so that listeners will desire a resolution?

The Climax

The story's climax is essentially a punchline with a lesson. Of course, the lesson is usually longer than the typical punchline of a joke.

The climax is more than just an ending. It's a resolution that can be used as a tool for helping listeners to learn. The storyteller instructs through resolution, and the listeners allow their need for resolution to lead them into learning. As the story is told, it educates all who hear it.

The climax must clearly fit the challenge and also carry listeners in new and somewhat unexpected directions. A surprise twist is what most affects an audience.

Here is the climax or resolution to the story from the service-management workshop:

"Finally, the Hardee's clerk brought me my order. As she looked me in the eyes, she very sincerely said, 'I'm sorry you had to wait so long. And to think you ordered your meal to go! I'm giving you a *large* order of fries. No extra charge."

"I heard myself cheerily responding, 'That's okay!' As I left in good spirits, I reflected on the mostly unpleasant experience and wondered, 'Now, how did she get me to do that?"

If a story were mapped out, climax would reside on the other side of the gaps created by the challenge. If listeners leap over the gaps, thus eliminating the dissonance, they experience insight and learning. But the climax must be truly inviting, realistic, and relevant. If the climax or resolution is too routine or farfetched, there is no insight. Listeners must be able to relate to and identify with how the story ends.

When creating the climax, ask yourself the following questions:

- Will the story's ending result in learning and achieve my goal or goals? Is a story the best way to accomplish that with this particular audience?
- Will the ending surprise, amuse, challenge, or amaze listeners?
- Will listeners view the ending as realistic and relevant?
- Will listeners be able to envision several possible endings before the climax is revealed?
- Will listeners gain insight and develop new attitudes, understanding, or skills from the resolution?

At the story's end, listeners should say, "I wouldn't have thought of that" or, "I wasn't expecting that." They should also feel, upon reflection, that the story makes perfect sense.

Telling the Story

Even a well-crafted story can fail to achieve its objectives if it isn't told well. Here are a few techniques and tips for effectively delivering a story.

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Dramatize. Don't be afraid to ham it up a bit. Remember, you're trying to paint a picture. As you speak, focus on the scene in your mind and try to become part of it. Relive the story as you tell it.

Describe. Use a lot of details in the beginning of the story and then faze them out. Listeners need to hear more details while you're creating the context.

A good rule of thumb is to start by using more details than you think the story needs. Your goal is to draw listeners into the scene. Once you establish the context and you move on to the challenge and climax, you need fewer details.

Shift. As you're telling the story, you sometimes act as a guide. Other times, you're part of the action. In other words, you step in and out of the scene. These dual functions make it acceptable for the storyteller to shift between the past tense and the present tense.

Pause. Timing is key to good storytelling. So-called "pregnant pauses" can entice listeners and imbue a story with drama and suspense. Practice your presentation by recording your story on audiotape and listening for places where pauses might add punch. Then tell your story at a pace that is slow, but not too slow.

Gesture. Use different gestures, varied facial expressions, and dramatic body movements. Such techniques can help turn a written story into a living demonstration.

The proverbial admonition to "stick to the story" is good advice. The storyteller who goes off on tangents loses momentum and ultimately frustrates listeners. Don't introduce secondary issues or new words and concepts. And don't ask questions during the story. Questions can be effective learning tools, but they tend to break the thread of the narrative.

Avoid biting sarcasm and satire. Even sad stories should have an element of joy. If a story is too acerbic, listeners tend to resist. The same goes for exaggeration. Most storytellers tend to embellish stories and tailor them to fit their needs and goals. That's expected, but too much poetic license can actually undermine the authenticity and realism that make a story powerful. If the audience members don't buy your story, then they won't buy your learning points either.

Good storytellers, like master vintners with a full-bodied wine, know that a good story mellows and improves with age. Above all, a good story is simple, stylish, and straightforward.

Storytellers tend to have their own favorite recipes for stories, but these are a good general guide:

- When choosing a story, "shop around" for the one that best meets your training goals.
- Keep the blend simple. A good story has the right mixture of ingredients to make it clear, crisp, and palatable.
- Add spice, but don't overseason.
- Give your story a distinctive flavor. Make it uniquely your own, even if it's a borrowed one.
- Practice makes perfect.

Where and When?

Trainers who have decided to use stories often don't know where and when to fit them into their training programs. Stories fit just about anywhere. For example, they can work as introductions or as conclusions. As an introduction, a story can announce and organize the main points of the training program to follow. As a conclusion, a story can reiterate the core principles, ideas, and concepts of the training. Using a story to wrap up a program can cut through any confusion that may have built up along the way.

Stories can act as breathers. They can provide welcome respites when training topics are complex or abstract, and they can alleviate emotionally charged discussions. Stories can clarify vague or easily misinterpreted training points, by adding specific, concrete details. They can help listeners make reasonable deductions from disparate elements and thus, better understand the training as a whole.

Stories can be very effective when concepts are tricky—that is, when hard-to-communicate nuances are critically important to understanding the training. Stories can engage learners emotionally and show them the consequences of taking or omitting certain actions.

Clearly, stories can enliven training or provide an attractive alternative to traditional training lectures. But it isn't enough simply to "make up a story." As with most worthwhile endeavors, effective storytellling requires thorough planning. Make sure your stories pack a punch and that you have a socko delivery.

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MAKING CASE STUDIES COME ALIVE

by Phillip H. Owenby

The trouble with training is it's too serious. Too seriously presented, that is. And oftentimes "serious" means "boring." Ask some of the people who attended your company's last training program, and you'll discover an unfortunate truth: Many training programs that deal strictly with technical, job-related subjects *are* boring.

That need not be the case. Yes, training is a serious business—companies shouldn't waste their money and time if it isn't. But "serious" describes the purpose and the results of training, not necessarily the means trainers use to reach those ends.

You can grab and hold the attention of learners, even in a class on something as straightforward and pedestrian as statistical process control. And you don't have to use colorful visual aids, computer—based learning modules or other hightech solutions to do it. Often, all you need to spice up training is a good case study.

What Makes a Good Case Study?

You probably think of a case study as a training activity that involves reading and analyzing a job-related situation to arrive at a course-sanctioned solution. So far, so good. Every trainer knows that involvement, problem-solving and learning-by-doing are effective learning methods, and that case studies are a good way to give learners those experiences.

But not always.

It's true that *good* case studies do these things, but many case studies used in training don't qualify as good. That is, they aren't very interesting or stimulating.

You can write better case studies by following some of the principles used by successful writers. Consider Isaac Asimov. In addition to the science fiction stories that made him famous, he has written a raft of nonfiction books on scientific and technical subjects. Why is he so successful? Because he writes in a style that attracts and sustains the interest of even the technologically illiterate.

In his nonfiction books, Asimov often uses true stories to explain scientific developments—stories about real people and how they discovered the wonders he writes about. His stories also explain how scientific and technological advances affect the lives of people now and how they are likely to affect people in the future.

Asimov describes his subjects precisely and accurately, but his style is conversational. He knows how to explain technical subjects to people. The approach that works for him—human interest, clarity and simplicity—can also work for you when you write job-related case studies.

You may be thinking, "I'm no Isaac Asimov. I'm an engineer who does training. How can I write good case studies?" It's not as hard as you might think. It's really just a matter of remembering what makes a tale—any tale—interesting to your audience.

Here are seven tips for writing good case studies that will involve learners and increase their interest in the course material.

1. *Write your case study in the form of a story.* This point is crucial. Stories have universal appeal because they offer readers vicarious adventures. Everybody appreciates a story, whether it's in the form of a fairy tale, comic book, television serial, blockbuster movie or supermarket tabloid. One reason gossip is a popular pastime, in fact, is because it offers a chance to tell stories about others.

A good case study, one that grabs and holds trainees' attention, will have a storytelling, gossipy quality to it.

2. *Name the characters in your case studies.* And don't settle automatically for John Smith or Mary Jones. Be a little adventurous: Use names like Melvin, Quintin, Katrina and Veronica.

Better yet, give characters humorous names. Preston Ready or Iva Problem are names that pun certain character traits in case studies. They lend an element of humor and help lead trainees to the conclusions you want them to reach. The 17th century Englishman John Bunyan, author of *Pilgrim's Progress*, knew this principle well. He used puns when he named his characters Christian, Sloth and Mr. Worldly-Wise.

Giving your characters names helps bring them to life. And bringing the characters to life makes case studies come alive to learners.

3. *Put words in the mouths of characters.* Good storytellers add dialogue to their stories. Remember the dialogue from childhood stories?

"Who's been sleeping in my bed?" asked Papa Bear in *Goldilocks and the Three Bears.*

"Fee fie fo fum; I smell the blood of an Englishman," said the giant in *Jack and the Beanstalk.* "Be he alive or be he dead, I'll grind his bones to bake my bread!"

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You don't need to be fancy or literary when you create dialogue, but you do need to avoid sounding false, corny or "Hollywood." Strive for authenticity. Make your characters sound the way people in your company talk in everyday life.

4. *Use realistic details.* Describe details specifically, accurately and familiarly to make your case study sound authentic.

Don't describe things in general terms. For example, don't call it a "tool," a "radiation detector" or a "computer storage medium." Call it a "7/8-inch socket wrench," a "100 mr dosimeter" or an "800K floppy disk."

Take pains to include only information you know is correct. Do not, for example, refer to ignition points in a modern automobile. Take the trouble to find out exactly what acronyms mean. For example, in the nuclear industry, BWR refers to boiling water reactor, not big wide receiver.

Research and use the nicknames, slang terms and shoptalk expressions common to situations like the one in the case study. If you know that manufacturing workers in your company ask permission to use nonconforming material by saying, "Can we MXR it?" (material exception request), then don't have the workers in your case study say, "Can we use this nonconforming material?" You'll risk losing credibility with trainees. (Caution: For the benefit of trainees who are new to the company, use notes in your case study to explain what these expressions mean.)

5. *Be descriptive.* Help learners enter the world of your case study by appealing to both eyes and ears.

"Terry flipped the switch to the slurry pump. Instantly, he saw a bright blue-white flash and smelled burning oil. A second later he heard a noise that sounded like sheet metal being torn."

This kind of vivid, detailed description puts the learner into the situation far better than, "The pump made a loud abnormal sounding noise." It also gives more real information to trainees.

6. *Make the flow easy to follow.* Since the case study is a story about a job-related problem, learners will follow it better if you present it in roughly chronological order. That is, present the events and information pretty much as they would occur in real life. Although using flashbacks to explain developments is a common device in fiction writing, it can be confusing in a case study.

7. *Be both complete and mysterious.* Put all the information into the case study that is necessary for your trainees to answer the questions you will ask them. Trainees must be able to find the pertinent facts within the body of the case study, either directly or by inferring them from accompanying references or aids.

Nothing is more irritating to trainees than feeling they have been set up. A case study has at least as much moral weight as a sporting contest, and in sports there are certain rules, standards of fairness and chances to win. Remember how much you hated trick questions in the tests you took in college, and avoid the temptation to annoy trainees with trick case studies.

At the same time, don't reveal how everything comes out. Obviously, you need to communicate enough information so that trainees understand the main points. But leave some threads hanging to maintain a sense of interest, curiosity and mystery. Don't overdo it; too many hanging threads are frustrating.

A 'Bad' Case Study

Consider this example of a case study from a training program on quality assurance auditing:

> *The XYZ Co. is a nuclear technology firm doing business with a private utility that operates a nuclear power station. The firm supplies such things as stainless steel valves and pump parts for the nuclear power station. As an auditor employed by the utility, you are about to participate in a supplier quality assurance audit. You must prepare an audit checklist for the part of the audit that deals with control of nonconforming items. List some examples of checklist items you would want to have in the audit checklist.*

What can we say about that paragraph? First of all, is this really a case study? Isn't it actually an essay question? Does it present enough detail to help the learner "participate" in the experience and arrive at a proper answer?

Nothing about it is intrinsically appealing. There is none of what journalists call "human interest" to attract and sustain trainees' attention. There is no story flow to consider, so it hardly can be called a story. There are no people in it or any dialogue for them to speak. The few details that appear are too general. There is no appeal to either eye or ear. Since the case is not complete, it offers no real mystery—only frustration. Trainers must do better than this if they expect case studies to be effective teaching tools.

A 'Good' Case Study

Consider another example from a course given to quality assurance auditors. This one incorporates all seven of the tips we discussed:

The Tale of the Preaudit Conference

> *Well, what happened is that we stood outside the vendor's plant entrance for 35 minutes before Doug, our team leader, finally was able to contact somebody in plant management to come and let us in the gate.*
>
> *We could tell that no one knew we were coming (at least they pretended not to know we were coming) when nobody could tell us where we were*

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supposed to go to meet with plant management. We ended up sitting in the plant QA manager's office while her secretary called around trying to find a conference room for us. The QA manager wasn't there because she had gone on vacation the day before.

While the secretary was calling about our conference room, Doug used another phone to talk to someone in the plant manager's office to set up the meeting. I remember that Doug kept telling them he'd mailed an audit notice to them a good two weeks before. In fact, the preaudit conference was supposed to have been set up by that letter.

We finally got a quick meeting together in a tiny, stuffy conference room. It was 11:05 a.m. when we sat down. My chair was pushed right up against the door. Sweat kept dripping off the end of my nose onto my legal pad.

The plant was represented by Ed Ripley, the assistant plant manager, somebody from the plant quality department (I didn't catch the name), and a couple of people from manufacturing (I didn't catch their names either). Doug tried to tell them what we were there to look at, and who we needed to see. One of the manufacturing people said, "Most of these people you need to see are out on vacation, but we'll try to find some other folks to show you around."

We asked to look at records of manufacturing nonconformances. One of them (I think it was Ripley) told us: "Those records are kept in a busy manufacturing area down on the floor. We're sorry, but we just can't allow you into that area. We'll be glad to bring you specific records if you can tell us exactly what you need. They did agree to provide us with an office to work and meet in.

Doug got very irritated a couple of times while he was explaining our schedule because he was working from memory ("Damn it, did I say we wanted to visit the metrology lab on Wednesday?—I meant Thursday!"). He had lost his copy of the audit plan, and none of us had ever had a copy. I wish I could remember the name of the person from plant QA, because she was very cooperative. Doug wanted to commend her to the QA manager but we never saw her again, and we never did get her name straight.

Questions

1. What problems have the audit team created that could hamper the effectiveness of this audit?

2. What is the audited organization doing that may be intended to prevent the audit team from gathering certain information?

Get the point?

This case study won't win any literary prizes, but it does a lot of things right. It names its characters (it omits some names just to make a teaching point). It uses both direct and indirect quotations to put words in the mouths of the characters. It sounds authentic because it provides realistic details of a bad audit experience from the point of view of one of the auditors.

The stuffy meeting room is graphically described. The chronological narration is easy to follow. The case study provides enough information for trainees to answer the two questions at the end, yet some uncertainty remains about what preceded and followed the situation.

By applying these seven tips and adding a little imagination, your case studies will keep trainees awake—no matter how mundane the topic.

PRESENTING WITH THE PENBOARD

by Gerry Bohning

The chalkboard is one of the oldest and most commonly used visual presentation aids. Long known as the blackboard because it was made of black slate, it is still a standard fixture in nearly every training and teaching environment. Today's chalkboard is likely to be called by its modern name—the penboard—and have a white gloss plastic surface that is used with dry marking pens instead of the conventional white or yellow chalk. As a visual aid, the penboard can contribute to the effectiveness of any training session or presentation.

A training room may have a large penboard mounted on the wall "at the front of the class," just where the old-fashioned blackboard was placed. Some penboards are designed with legs so they can be moved about. The special dry marking pens for use with the boards come in a variety of colors and can be rubbed off with a regular eraser or cloth. Since the dry markers are dustless, sensitive equipment such as computers or tape recorders can be used in the same room with the penboard.

While a penboard may be one of the most commonly used visual aids, it is also often one of the most misused. For example, if the writing on the penboard is blocked by the presenter or if the writing is so small that it is illegible, then the penboard loses its effectiveness and is more likely to antagonize than assist the learners. Misuse not only lowers the attention of the audience but leads to lower ratings for the trainer. A good training session requires competent use of supporting visual aids.

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This article lists appropriate training situations, provides a set of user guidelines, and offers an evaluation form which can be used to rate a trainer's level of penboard performance. Taken together, they provide information and basic techniques to help trainers and presenters become competent users of the penboard.

When Should the Penboard Be Used?

The penboard is an important visual aid in even the most sophisticated training classroom. It is readily available, easy and convenient to use, inexpensive, holds interest, and adds clarity and meaning to the concepts being presented. In addition, it is suitable for a wide variety of situations. The situations in which the penboard can be used most effectively are when information is being developed from the responses of the participants and when unexpected interactions yield promising ideas—in short, when spontaneity is in action. Appropriate situations for using a penboard include tasks when a trainer needs or wants to:

- Make a record of participants' responses.
- Supplement verbal explanations with key words.
- Leave a statement or problem in view throughout a session.
- List ideas from buzz groups.
- Give key contributions extra force.
- Build a framework of information to match the group's interests.
- Provoke additional ideas by letting everyone know what has been contributed so far.
- Compile salient points which have been offered.

It has been argued that all the functions of a penboard can be fulfilled by using overhead projection—Why copy something on a penboard only to erase it? There are times when an overhead is more practical, such as when the training requires time-consuming drawings and graphs, a large volume of written material, a permanent record, or when the audience is a large group. The penboard answers different training needs. It is for use with groups of 30 or less and for situations when it is necessary to accommodate the participants' responses or when impromptu involvement needs to be given visual recognition. Overhead projection and the penboard can be integrated smoothly together in a training session. Since the white surface of the penboard allows it to be used as a screen, it is easy to work with a combination of the two visual aids.

How Can the Penboard Be Used Effectively?

There are three questions which serve as guidelines for using the penboard effectively:

1. Is the penboard easy to read?
2. Are the main points of the session easy to identify?
3. Is there concern for the audience?

The guidelines are basic "do" and "do not" techniques. Each trainer has a different level of proficiency for presenting; the following extensions of the guidelines are intended as helpful suggestions for a trainer.

1. Visibility: Is the Penboard Easy to Read?

Letter Size

Letters should be about 3 inches high so they can be read easily from the back row. If the letters are too small, they are not functional and will not hold the attention of the learners. The letters should also be uniform in size and regularly spaced. Do not write near the bottom of the board because those sitting in the back will not be able to see the last line.

Legibility

Write with care; be generous in spacing between words and lines. Printing is generally more legible than cursive writing. Write in all capital letters when you want emphasis. Use only accepted abbreviations and make sure the participants know what they mean. Use space rather than vertical dividing lines to divide columns. If your writing tends to slope up or downward, try putting spaced dots, one for each line of writing, on the right-hand edge of the penboard and use them as targets—aim your writing toward the dot. Practice your writing and have a friend at the back of the room give advice.

Style

Follow your present writing style but omit all flourishes and decorations; try to develop a simple and uncluttered style.

Penboard

Keep the penboard clean to improve appearance. Check for blind spots caused by glare; if the penboard is portable, adjust the position to eliminate or reduce the glare.

Pen

Hold the pen with the tip downward to ensure a continual flow of dry ink. The pressure produces bold clear lines.

2. Simplicity: Are the Main Points of the Session Easy to Identify?

Amount

Put four or five words on a line. Eliminating unnecessary words enables the learners to focus on the important concepts. This also minimizes the time spent with your back to the participants. Simple symbols, stick people, and sketches can be used instead of words to convey a point quickly and successfully.

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Title

Each listing or set of information should have a title. The title conveys the category of information and narrows the focus. All capital letters can be used for heading emphasis and to establish the importance of the title.

Color

Use color to highlight a particular aspect; you can underline or box a word or idea. Do not use so many colors that they distract. Generally two or three basic colors will make a point. The color coding should be systematic and meaningful to the participants. For example, underlining in green might indicate ideas that are key concepts; red might represent words or ideas which need further discussion or explanation.

Erasing

Erase rather than squeeze words on the penboard. Using a penboard is a process of adding and clearing. Erase as needed. Rub out as soon as you are finished with a section; this eliminates needless distractions. It is tempting to erase only enough to make room for your next part rather than the entire board. However, an untidy penboard has a jumbled impact on the participants.

3. The Audience: Is There Concern for the Audience?

Purpose

Use the penboard to support ideas from the audience. The penboard can accommodate spontaneity on your part and on the part of the participants. Every training session has teachable moments—moments when the participants' responses amplify or clinch a point. Reinforce these worthwhile moments by displaying the ideas visually on the penboard.

Eye Contact

Avoid loss of eye contact with the participants; turn frequently to the audience to maintain eye contact. Talk to the participants, not to the penboard. Write on the penboard and then turn back to the audience.

Position

Avoid blocking the view of the participants; do not stand in front of the penboard. Stand to one side and use a pointer or your hand to direct attention to a particular item or word.

Evaluation Guide

The following Evaluation Guide for Presenting with the Penboard provides feedback to trainers about their use of the penboard. Each of the items is a part of the three guidelines. Randomly distribute the evaluation form to every third or fourth participant and ask them to complete it. This random sample gives you enough information to set your goals for penboard improvement. Or, use the guide as a self-evaluation tool; rate yourself and set improvement goals. Either way, evaluation is important as a reflective focus for setting improvement standards.

Summary

Penboards are so familiar that they tend to be taken for granted. While their availability can be taken for granted, their effective use cannot. Communication is enhanced when participants can see as well as hear what the trainer or presenter has to offer. If a visual aid is not used effectively, communication is reduced. The penboard information and basic techniques offered above can help you do a good job with your training session. The pay-off is increased attention and involvement of the participants, more effective training sessions, higher evaluation ratings, and an increased sense of professional satisfaction.

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EVALUATION GUIDE FOR PRESENTING WITH THE PENBOARD

How effectively did the trainer/presenter use the penboard? Rate the level of accomplishment by circling the appropriate number under Level of Performance. Consider 1 as inadequate and 5 as excellent with the other numbers as a scaled rating between the range.

	Level of Performance Inadequate Excellent
Visibility	
Was the penboard easy to read?	
Lettering was large enough for all to see.	1 2 3 4 5
Writing was legible with generous spacing between words and lines.	1 2 3 4 5
Writing style was simple and uncluttered.	1 2 3 4 5
Penboard was positioned to reduce glare.	1 2 3 4 5
Marking pen produced bold lines.	1 2 3 4 5
Simplicity	
Were the main points of the session easy to identify?	
A limited amount of writing was presented.	1 2 3 4 5
Titles conveyed the category of information.	1 2 3 4 5
Color was used to highlight particular aspects.	1 2 3 4 5
Penboard was erased as needed; information was not squeezed on.	1 2 3 4 5
The Audience	
Is there concern for the audience?	
The penboard was used to support ideas from the audience.	1 2 3 4 5
Eye contact was maintained.	1 2 3 4 5
View of the penboard was not blocked.	1 2 3 4 5
Comments	

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HOW TO ESCAPE YOUR TRAINING HORRORS

by Betsy Pickren and Roy J. Blitzer

"Feed me! Feed me!" demands the voracious alien useplant in "Little Shop of Horrors." It goes on llowing for food until it finally overpowers the hapless retaker who was just trying to help. In the same way—this age of fast food, microwaves, liposuction and tery-made millionaires—people in training courses en demand that instructors simply "feed" them knowl-ge and skills.

Intimidated, the trainer gives in to such groups and ds them nuts-and-bolts "content" with a snow shovel. nehow, they're still unsatisfied. So, in despair, the ie trainer lurches to the other extreme and delivers cess-rich, content-poor instruction—a presentation of theory and dazzling showmanship that has high ertainment value but little substance or practical appli-on back on the job.

What's a trainer to do? Dole out morsels of practical rmation by hand or throw the content in a trough, d back and wish everyone *bon appetit?*

ontent vs. razzle-dazzle is just one of the tough issues trainer faces. What about instructional methods? ild the method match the organizational level of the p: freewheeling discussions for executives, rules hecklists for machine operators? Should you deliver oretical lecture to a roomful of "doers"? If you times find yourself in these quandaries, you're not .

er the years, we've faced many groups only slightly congenial than a roomful of carnivorous plants. e run up against supervisors who flatly refused to ce a critical new skill ("I will *not* role play," or, "No, 't get up in front of everyone and present"). We've led with executives who openly objected to "being ated," demanding instead a tell-me-what-to-do state-of their role in a high-stakes training intervention. ost brilliant, thought-provoking questions have with no effect on stone pillars masquerading as s. We have known the agony of conducting train-mer sessions for people who preferred wrangling e process rather than getting on with the learning. asionally, though, we've applied our facilitation vith no undue effort, to hook a group and transport ie to that euphoric state called "involved learn-nd that kind of ecstasy is worth every ounce of

ie the principles outlined below can't guarantee o the horrors we fear as trainers, they can help anyone who understands and applies them to become a better facilitator. Note that "apply" is the operative word here, because "knowing about" a training style or technique is only the first step toward adapting it to the practical needs of varied groups.

Split Personalities

A recent study ("Identifying Trainer Styles" by Darlene Russ-Eft of Zenger Miller Inc. and Mary Howard of San Jose State University) proposed four main training styles: Director, Listener, Interpreter and Coach. A trainer may adopt any of these styles in different situations.

The **Director,** as the name implies, takes charge. Typical Directors prepare outlines, follow step-by-step lesson plans and appear self-confident as they clarify what they want people to do.

Other earmarks of the style include objective evaluation criteria, a brisk manner that focuses the group on a predetermined series of learning points, and extensive use of the lecture method. Most Directors limit group participation and demonstrate strong presentation skills—a real advantage when the trainer has limited time and specific information to impart.

At the other extreme, the **Listener** gives the floor to the participants (often after laying down explicit ground rules for discussion), and concentrates on encouraging learners to express their emotions, needs and experiences. Using verbal and nonverbal cues, Listeners demonstrate enormous concern for individual learners—often "modeling" the kind of personal disclosure they want from the group. Participants, in turn, feel noticed, important, and free to reveal their thoughts and feelings.

Further, the Listener demonstrates interest in what people say, empathy for how they feel and comfort with emotional expression, no matter how intense. Apparently relaxed and unhurried, the experienced Listener, like a duck, may be paddling like crazy under the water to keep the discussion focused on certain training objectives.

The **Interpreter,** in contrast, encourages learners to memorize terms, master rules, integrate theories, explain events and share ideas but not feelings. Through case studies, readings, lecture and disciplined discussion, the interpreter strives to create other interpreters by focusing on the facts, the terminology, the logical implications—in short, on the task at hand, not on the feelings associated

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with it. In listening for thoughts, the Interpreter sidesteps emotions that can undermine the ability or energy of participants to apply what they learn.

The Coach likes to involve people in activities and discussions. He will excel in diagnosing participants' current skills and knowledge as a first step toward improved performance. Coaches encourage experimentation through practical application: "trying on new ideas," practicing new behaviors, having a go at new skills. Often drawing on participants' existing knowledge and talents, Coaches make a point of sharing with learners the responsibility for meeting training objectives.

As a facilitator, the Coach strives to make training comfortable and relevant to participants' needs, acting as a catalyst, not an authority. Through structured activities, projects and problems—all based on real life—Coaches emphasize the transfer of skills and knowledge back to the job. Active classroom participation is critical to Coaches; in their view, success depends primarily on getting everyone to work together.

When journeymen trainers get into trouble, it's usually because they rely too heavily on one or two of these basic styles. The best facilitators in the business consciously choose and apply elements of all four styles to meet the requirements of different groups, different learning activities, different training objectives and different content.

For example, when it's time to teach rote procedures in a technical training course, the Listener style is almost never appropriate. The expert facilitator who has been operating in the Listener mode for some other activity will recognize a looming "horror" and switch styles.

Rules to Train By

The advice below can help you to refine the training style you find most comfortable and to master the additional styles you need to become a more effective facilitator. These tactics apply across the board, regardless of the style you choose for a given situation. They are, in fact, the foundation of effective training technique, regardless of your level of experience.

Rule 1: Project yourself as being in charge.

Even a Listener needs to be in control of the training session—and that control must be apparent to the learners. How do you do it?

- *Prepare for the session* by doing all administrative tasks well in advance.
- *Get there early.* Your appearance of being on top of things inspires confidence in your participants.
- *Plant your feet comfortably.* Stand as if you have roots below the ground, but be as flexible as a coconut palm in the wind. Your own confidence grows when you feel physically rooted.
- *Remain calm and unflappable.* Participants expect it and deserve it in a professional. When a trainer falls apart, or even when participants sense her losing self-control, they lose interest, clam up or become resentful.
- *Defer to the group.* When you're unsure how to respond to a participant's question or remark, it sometimes helps to ask, "What does the group think about that?" or some similar question. Often, another participant will have a wonderful reply. At the very least, this technique gives you time to think of a response.
- *Breathe deeply.* At the first hint of panic, inhale through your nose, exhale slowly through your mouth. If all else fails, declare a 10-minute break.
- *Laugh it off.* Remind yourself that today's horror is tomorrow's funny memory.

Rule 2: Build rapport both with and within your group.

The group should feel comfortable. You need to generate warmth, demonstrate concern and encourage interaction among participants. You do this not just to be nice, but to create the right atmosphere for learning.

Numerous studies have established that adults learn best in a relaxed setting. In this regard, a well-told story or joke can prevent an otherwise likely training horror. Joking can backfire, however, unless you take certain precautions.

- *Keep "war stories" short and to the point.* Be prepared to explain the important lesson of the story and how it relates to the training topic.
- *Maintain your credibility as a trainer.* Don't use the story to work out a personal issue. And remember that a group can get nervous if a trainer overdramatizes a pocket of incompetence within the organization.
- *Avoid culturally sensitive jokes.* Successful organizations make a point of accepting and building on cultural and ethnic differences within their ranks. That's why a biased joke not only causes hurt feelings, it also creates tension in the classroom, condones ridicule and chips away at cooperative action back on the job.
- *Use self-disclosure.* You become real and human to the group when you reveal something about yourself.
- *Remember the participants' perspective.* Try to identify the group's specific motivation, or lack of motivation, for attending the training. A joke or story that recognizes either (without belittling people) can enhance a group's readiness to learn.
- *Practice your delivery* so you can talk confidently and with as few words as possible.

Rule 3: Balance participation to achieve desired outcomes.

In virtually every training session, both encouraging and limiting group participation are critical to achieving

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your objectives. Outstanding trainers operate by an internal clock, applying various techniques as needed to expand or close down discussion—always remaining sensitive to the needs of participants.

To expand participation:

- *Tell a relevant story about yourself.* It breaks the ice.
- *Ask open-ended questions.* That is, ask questions that call for an expansive response, not just "yes" or "no."
- *Use polling.* Ask for a show of hands about something: "How many of you have ever run into a problem like that?" Raise your own hand as you ask the question; it encourages others to raise theirs.
- *Play devil's advocate.* Express an opinion contrary to the prevailing view. Someone is bound to agree or disagree.
- *Piggyback* on a participant's comment by asking others in the group for their reactions to it.

To close down participation:

- *Ask close-ended questions.*
- *Summarize* where you are in the session and make an immediate link to where you are going.
- *Move to an individual activity* such as reading or writing.

A Matter of Timing

Effective facilitation is both a science and an art. The scientific part can be capsulized in descriptions of training styles or lists of helpful hints, as above. The artistic part is essentially a matter of timing. When do you Direct? Listen? Interpret? Coach? When do you go for a laugh?

The answer is, of course, "It depends." Classroom training is a form of improvisational theater that you can plan but never completely foresee. Why not? Because much of what you do depends on the contributions and needs of the audience, and these things appear only during the session itself.

The choices you make on your feet in the classroom—based on your command of training techniques, your sense of group needs and your experience—largely determine whether you achieve your training objectives or just add one more nasty plant to your "Little Shop of Horrors." And that ability—in essence the ability to do the right thing at the right time—is what transforms the journeyman trainer into a master facilitator.

TDY 93/94 IN BRIEF

TIPS FOR KEEPING TRAINEE INTEREST

Source: "Ten Sure Ways to Score with an Audience," by Arnold Zenker, *Training & Development*, April 1992, pp. 19-21

Audiences that grew up with television want useful information with razzle-dazzle visuals, says the author. He offers 10 tips for keeping audiences interested:

- Limit your objectives,
- Simplify, simplify, simplify,
- Tell anecdotes,
- Relate the subject to the outside world,
- Vary the presentation between speaking and visual aids,
- Move closer to the audience,
- Appear to enjoy your work,
- Be outrageous,
- Don't overstay your welcome, and
- Insist on making your presentation your own way. (AN148)

PROVIDING OVERVIEWS FOR LEARNERS

Source: "Three Tools to Help Learners Learn," by Susan L. Michel, *Training & Development*, June 1992, pp. 17-19

Unlike children, says the author, adults don't learn by rote memory. For them, learning has to make sense. The challenge for trainers is to provide these learners with the tools they need in order to construct their own knowledge. The author discusses 3 such tools:

- An outline or structured **overview** tells trainees what they will and will not cover,
- Simple and forceful **graphics** in front of the group help trainees orient themselves to a concept, and
- A **conceptual map** combines features of an outline with the appeal of a graphic display. Moreover, a trainee's own conceptual map gives an indication of his or her understanding of the subject. (AN149)

DEALING WITH TRAINING ROOM DISASTERS

Source: "Classroom Management 101: When the Lights Go Out," by Stephen D. Boyd, *Training & Development*, August 1992, pp. 15-17

How does a trainer cope with the unexpected? In this article, the author describes some common training disasters and how to overcome them. Problems discussed are:

- Mental blocks,
- Uncontrollable crying or laughing,
- Hecklers,
- Audiences that fall asleep,

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- Poor introductions, and
- Power failures. (AN150)

FACILITATING CASE STUDIES

Source: "A Case for Training," by Darryl Ann Lavitt, *Training & Development*, June 1992, pp. 19-22

How do you teach someone to be wise? You can't, concedes the author, but you can build up the skills upon which wisdom is based. Case studies can shape the cognitive skills of analysis, judgment, and synthesis, she says. She begins by noting the essential elements of case studies: (a) they are based on reality, (b) they include opinions and prejudices as well as facts, (c) they are complex, and (d) they are created for students to analyze in a classroom discussion. "The best-written case cannot do its job if it is not facilitated effectively by an instructor who has been trained in the Socratic method," says the author. "The method is more difficult than lecturing; phrasing effective series of questions is an art." With this introduction, she then proceeds to discuss the role of the facilitator in greater detail. A sidebar highlights techniques for facilitating case discussions: clarify issues, guide the discussion, challenge, explain, editorialize, and close. (AN151)

USING VIDEO IN TRAINING

Source: "Building on Video," by W. Steven Brown, *Journal of Quality and Participation*, October-November 1992, pp. 48-50

Video-based training can teach skills and help change corporate culture, but video can't do it all, this author says. A video-based training process has to include more than just video, he goes on, making a few suggestions for improving the entire process:

- Use front-line managers as facilitators in an interactive video process.
- Make the best use of video's strengths and efficiencies (1) by considering how tailored the training should be, (2) by using in-room facilitators to ensure that everyone is getting the video's message, and (3) by using pause buttons appropriately to intersperse video with discussion, role play, etc. And don't over-individualize the medium—remember that ideas often flow more effectively in groups.

The author includes a sidebar of tips specifically for managers when they use video in training, and he concludes with a list of the characteristics of a good video: (1) it lets viewers see material through their own eyes, (2) it is realistic, (3) it underscores and repeats crucial points, (4) it contains pauses for thinking and interaction, (5) it makes training strategies consistent with expected employee behavior, and (6) it encourages viewing, not note-taking. (AN152)

USING AN OVERHEAD PROJECTOR

Source: "I Know You Can't See This, But...," by Marguerite Foxon, *TRAINING Magazine*, November 1992, pp. 47-50

If the overhead transparency is so easy to use, this author asks, why do so many presenters use it so poorly? Fresh from a horrendous seminar experience with overheads, the author examines 3 main problem areas with overheads:

- **Design**—including the mistake of using overheads to present textual rather than visual messages, inappropriate type size and color, and overcluttering of each transparency,
- **Delivery**—including guidelines for professional use:
  - Maintain eye contact with the audience as much as possible.
  - Talk from notes rather than the screen to maintain contact with the audience and their reactions.
  - Use a pencil rather than your finger to highlight a point on the transparency.
  - Stand flush with the screen and use a long pointer if it is necessary to point to an image on the screen.
  - Avoid walking in front of the screen when the projector is on.
  - Change transparencies with the projector turned off.
  - Place the transparency correctly before turning the projector on.
  - When progressively revealing one section or line at a time, place a sheet of paper under the transparency, not on top of it.
  - Overheads are for the benefit of the learner, not the presenter—if you need prompts, use notes, not piles of transparencies.
  - Give participants time to digest the content of each overhead.
  - Familiarize yourself with basic repair skills.
- **Positioning**—taking time to position the projector before the session starts, at an angle to the audience, rather than directly in front, taking roller-blind screen limitations into account, and using a numbering or labeling system to keep transparencies organized. (AN153)

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B. EXPERIENTIAL LEARNING IN THE CLASSROOM

10 SECRETS OF SUCCESSFUL SIMULATIONS

by R. Garry Shirts

The most satisfying experience in training or education, no matter what the subject, is the so called "Aha!" moment, that instant when sudden, spontaneous insight cuts through the tangle of loose ends in a learner's mind to reveal a simple, memorable truth.

Having spent nearly 30 years designing experiential simulations, I am convinced that this form of training is uncommonly capable of producing "Aha!" moments. In a simulation called "Star Power," the moment occurs when trainees, who might be police officers or corporate managers, unexpectedly realize that the only way to keep power over others is *not* to use it. In "Bafá", the moment comes when trainees suddenly grasp the idea that good intentions can actually worsen cultural misunderstandings. In a team-building simulation called "Pumping the Colors," it happens when trainees abruptly comprehend that the rules a team operates under are actually the *team's* responsibility.

When combined with other unique strengths of simulations—their ability to simplify systems, to demonstrate other people's perspectives, to develop "battlefront" skills in safety and to solve problems from the inside out—these eye-opening moments can endow trainees with a vivid, often deeply personal understanding of even the most abstract training concepts.

Simulations, however, are widely misunderstood. The most experienced trainers, called upon to design a simulation, often create a workaday version of the board game "Monopoly." These are sometimes successful as play but rarely effective as training.

Here are 10 secrets for creating successful training simulations. They represent lessons learned from my own hard-fought struggles to understand the elusive, often perverse human dynamics at work in simulation training. Taken in sequence, they can supply relatively safe passage through the tricky terrain of simulation design.

1. Don't Confuse Replication With Simulation

The temptation in designing a simulation is to make a small scale replica of some full-blown reality. It seems logical that the closer the simulation comes to reality, the more valid and memorable the experience will be. If you're designing a flight simulator for airline pilots, this may be so. But in "soft skills" training, the opposite is usually true. The job of the designer is to look past the details to the *essence* of a reality.

Two Navy projects taught me that lesson.

A sailor on shore leave in Athens, after buying a memento in a bazaar, discovered a shipmate had bought the same memento from the same merchant for a lot less money. Unaware of the Greek custom of bargaining, the sailor returned to the bazaar and flattened the hapless merchant.

The Navy asked me to devise a simulation that would teach sailors to respect—and expect—unfamiliar customs and relationships in foreign cultures. Since the Greek culture was only one of many the sailors would encounter, my associates and I created a simulation that postulated two abstract cultures defined in broad strokes: One was patriarchal and relationship-driven, the other individualistic and task-oriented. In neither culture did we attempt to simulate language, religion or attitudes toward time, work, leisure or whatever.

Trainees were divided into two groups. Each learned the rules of its own culture. Then representatives from one culture had to visit the other and attempt to function. Despite my initial fears that the simulation might be too abstract, it was an immediate hit. Its simplicity captured the sailors' imaginations so quickly that they experienced culture shock when visiting the "foreigners." By concentrating on a few key elements of the cross-cultural reality—its essence—we allowed the simulation to heighten and clarify the experience. "Bafá Bafá" has since been used extensively by the Peace Corps and a number of corporations.

The Navy then asked us to design a simulation to help newly arrived American sailors learn to live in Japan. One objective was to show trainees how complex a foreign culture can appear when you don't understand the language, so we replicated the Japanese experience in considerable detail. We set the exercise in a model of a Japanese railroad station and hired Japanese housewives to staff shops and ticket windows. The sailors were to face a series of real-life quandaries: asking directions, ordering train tickets, buying gifts and so forth.

When the simulation got under way, however, all this authenticity quickly buried our good intentions. The trainees were lost in detail. We had exaggerated the

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problem and overwhelmed the point of it all. The simulation collapsed of its own weight.

2. Choose the Right Subject to Simulate

Some subjects lend themselves better to simulation training than others. I don't claim to have discovered any ironclad rules to determine likely subjects, but I believe a topic is more apt to be suitable for simulation if it embodies at least one of the following characteristics:

Seeing the world through other people's eyes. A pharmaceutical company wanted a training program that would awaken its complacent marketing department to the competition threatening its principal product line. We designed a simulation that divided the marketing staff into five competing teams, one represented our client company and the others its principal competitors. Each team designed an aggressive marketing plan to increase its "company's" share of the threatened product's market segment. The unqualified success of the competitors' marketing plans revealed just how vulnerable the client company's product was. The marketing staff was shocked into action.

Performing tasks simultaneously. Traditional training methods teach skills in a linear fashion, one by one. In the real world, skills are often needed in clumps: A manager may find herself simultaneously negotiating with a vendor, listening to a customer complaint and planning the response to a memo from her boss. A simulation can create an environment in which she learns to do all three—and more—at once.

Performing under pressure. Some people are skillful negotiators, excellent listeners, clear direction givers—but only when they don't have to perform under pressure. Simulations can create environments full of genuine but nonthreatening pressure, affording such people opportunities to practice their skills under duress.

Developing systems thinking. Many people find it difficult to grasp the concept of how systems operate. They know the parts of a system are related, but they resist understanding the relationships because they think they are impossibly complicated. A simulation can put people *inside* a system. As part of the system, they see firsthand how change to one component affects the others.

Recognizing cognitive dissonance. People often hold contradictory attitudes or beliefs without being aware of the contradiction. This is known as cognitive dissonance. For instance, if a manager sincerely believes he is nonsexist yet behaves in a sexist manner, chances are he suffers from cognitive dissonance. Many of the "Aha!" moments created in simulations come when such a person suddenly realizes that he or she has been living a contradiction.

3. Develop a Design Plan

In preparing to design a simulation, you must make two key planning decisions. First, will you design it alone or use a design team? Second, will you employ a structured creative process or fly by the seat of your pants?

Whether you go it alone or put together a team, you need to fill the following roles: *principal designer*, who has firsthand knowledge of training simulations (and, for a team, the commitment to lead); *subject matter expert*, who has a thorough understanding of the subject to be simulated; *administrator*, who sets and maintains the design schedule, oversees acquisition or production of materials, and shedules alpha and beta tests (more on these later); and *client or representative*, who provides a reality check as the project develops (in an oversight capacity only).

While some feel the most productive creative process is no explicit process at all, I believe a simple but well-defined creative program can counteract the pressures that often cause designers to settle for second-rate ideas. I have tried most of the creative techniques espoused by experts, and I've found that their best advice can be distilled into three suggestions:

1. *Avoid premature closure of ideas.* Don't stop searching for ideas after the first workable one appears. Often the best idea comes second, third...or 10th. Think of ideas as stepping stones to other ideas rather than as destinations in themselves.

2. *Get outside a problem and look at it from different angles.* For example, try approaching a problem in a marketing simulation from the point of view of a customer, a salesperson, a distributor, a person who's never seen the product before, someone who doesn't speak English—you get the idea.

3. *Give your subconscious a chance to work on the problem.* The solution to an especially intransigent problem will often pop into your head when you least expect it—on the freeway, in the shower, at the beach. Give it the opportunity.

4. Design the Simulation so Trainees Take Responsibility for Their Actions

Most simulations are divided into two sections, the simulation proper and a session analyzing the results. Conscious learning occurs primarily during the analysis session. Learning is side-tracked, however, whenever trainees disavow responsibility for their behavior during the simulation. If they can claim they did what they did only because the simulation suggested or encouraged that action, their motivation to learn from the experience evaporates.

When you design your simulation, watch out for these guaranteed responsibility avoiders:

Pretending. If the rules even imply that trainees should "pretend" to be someone or do something, then at the end of the simulation they will exclaim, "That's how I thought such a person would act!" When you allow trainees to become actors playing roles, you compromise their stake in the outcome. Instead of telling someone to act like the president of a company, for example, assign him the authority and responsibilities of the president.

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Design all "roles" in a simulation so that trainees must be themselves.

Using competition for its own sake. Employing competition between trainees to increase interest in a simulation can, and often does, backfire. Trainees can then justify all kinds of inappropriate behavior in their quest to win. If competition is not a factor in the real-world situation you are simulating, leave it out.

Giving inappropriate importance to chance. Stymied simulation designers often fall back on the trusty old device of a deck of cards, with outcome-altering directions like, "The company is being sued" or "The workers are on strike." Such cards invite trainees to escape responsibility later by insisting, "We made the right decisions, we were just unlucky." Limit chance to events that actually occur randomly in the real world.

5. Use Symbols to Deal with Emotionally Charged Ideas

Occasionally a simulation focuses on an emotionally charged issue that threatens to overpower the learning experience. For example, in the early '70s a teachers' association asked me to design a simulation to teach campus conflict resolution. My scenario proposed that a trivial misunderstanding between a white and black student had escalated into a riot. I tested it with a group of college professors from a state university. They were divided into four groups—a black militant group, a white right-wing group, a moderate black group and a moderate white group—and were given the task of resolving the conflict.

Seconds after our first test began, the black militant group (all white, middle class males) leapt onto a table and began shouting obscenities. The right-wing group responded with threats of violence. The moderate groups attempted to mediate but were buried in the verbal mayhem. After an hour, we stopped the simulation and discussed the experience. The professors loved it. I hated it. I felt that instead of responding honestly, the participants had merely stepped into stereotypical roles—the opposite of my mandate. I canceled further tests and went back to the drawing board.

I realized that by incorporating such emotionally charged and guilt-laden themes—"black," "white," "race riot"—I had subtly threatened the participants, making it difficult for them to respond genuinely. In hiding behind stereotypes, they were taking advantage of a convenient escape hatch. This made it impossible to get at the essence of racism: power or the lack thereof.

I changed the name of the simulation from "The Race Game" to "Star Power." Instead of blacks and whites, I named the groups Circles, Squares and Triangles, and gave the Squares power over the other groups. At the next test, I worried that trainees would not identify with such abstract groups, thus weakening the simulation's emotional impact. I stopped worrying when I noticed a Triangle questioning a Square's right to order him around. The Square drew himself up. "You want to know why I can tell you what to do?" he growled, shoving his badge in the Triangle's face. "Because I'm a *Square*, that's why!"

6. Don't Play Games With Trainees

When we first tested "Star Power," we instructed the facilitator to stack the odds, in secret, in favor of the first group of trainees to begin acquiring power (on the theory "the rich get richer"). This tactic served our purpose well—until it was revealed during the analysis session. The trainees were so angry to discover the deception that their fury overpowered all discussion.

We changed the rules, but only slightly. We told the facilitator to explain at the start that whichever group did best in the early going would gain an advantage in later stages. We still stacked the odds, but without secrecy. It worked. The trainees, no longer feeling manipulated, now accepted the concept "the rich get richer" without complaint.

Another kind of game playing can backfire by trivializing the whole experience. I refer to the use of cute proper names, like the "Yell and Holler Telephone Company" or "Caught in the Act Security Services." No matter how clever such names seem to the designer, they undermine the authority and effectiveness of the simulation by signaling trainees not to take it seriously.

7. Use Non-Trainees to Add Realism

Non-trainees, people who have no stake in the outcome of the simulation, can add an exciting, even crucial sense of realism.

In "Pumping the Colors," a team-building simulation, trainees build a water transfer system that is tested near the end of the simulation by a non-trainee "customer." The team has to provide this untutored stranger with written instructions that enable her to operate the complicated apparatus. The presence of this outsider in the equation forces trainees to consider the system's simplicity of use and elegance of design at every stage of development.

In another simulation, one designed to train sales managers, 10 workers are hired from a temporary agency for the day. The trainees must interview them, select some as sales staff, train them to sell a product, organize them into efficient departments and coach them to success. The use of strangers adds real-world authenticity to the training experience.

Non-trainee participants are not suitable in every simulation (neither is real-world authenticity, as we've seen). But when they are, they can bring it alive.

8. Develop an Appropriate Performance Assessment Model

Because of a perceived superiority of mathematics-based scoring systems in training, simulation designers often attempt to develop quantitative models for assess-

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ing trainee performance. These may be appropriate for quantitative simulations—those dealing with financial or other formulaic disciplines—but for most qualitative simulations they are not.

By "qualitative," I mean simulations that teach human-centered subjects like ethics or teamwork or cultural diversity. Mathematical analogs are usually too limited and inflexible to account for their myriad variables—or too complicated to produce meaningful results. Also, trainees often figure out quantitative models and skew the results.

In the marketing simulation for the pharmaceutical company, we considered using a quantitative model to score the competing marketing plans. But then we realized that measuring every relevant aspect of the plans numerically would require a list of variables as long—and about as informative—as a telephone book. Instead, we used a panel of actual marketing experts to evaluate the plans and assign each a share of the market. This not only produced a realistic outcome, it offered trainees an opportunity to challenge, and better understand, the results.

Alpha Test Your Simulation in Low Risk Circumstances

Both alpha and beta testing are critical to the development of even simple simulations, but confusing them can be disastrous. A beta test is a real test—a shakedown—of an anticipated final product, always occurring after the design is at least provisionally set. Alpha testing often happens so early in the design process that it might more properly be termed a design technique.

The purpose of an alpha test is to evaluate the basic assumptions of the simulation, its overall structure and the logic of its progression. You should expect problems to surface and be prepared to reinvent the whole simulation if necessary. Never include anyone in an alpha test who has an investment in the success of the simulation. No matter how forcefully you insist that this is only a preliminary test and that nobody should get excited if he sees problems, anybody with a stake in the outcome will panic the minute something goes wrong. And something will go wrong.

Do yourself a favor and stage alpha tests with people who love you.

10. Set Your Own Standards for Success

When you spell out the purpose and goals of your simulation at the beginning of the design process, you are defining standards by which to judge its ultimate success. Don't lose sight of those standards as your project nears completion.

By the time you get to beta testing, you may find your simulation seeming to take on a new and unfamiliar personality. This is often due to the cumulative feedback of trainees who take part in the tests. Trainees often overvalue (or undervalue) the participative aspect of simulations; they are, after all, used to sitting passively through lectures. Or they can become so emotionally involved in the simulation that they exaggerate the result, giving you a false positive assessment of what they've actually learned.

Don't get me wrong. You must listen and learn from trainee reactions, good, bad or indifferent. And you must be prepared to modify the simulation when necessary. But you can't let yourself be seduced by enthusiasm or destroyed by criticisms. The success of the simulation depends upon your ability to maintain objectivity.

As you test and modify, you will watch your simulation come closer and closer to accomplishing its purpose. At some point—you are like me—you will have a surprising but memorable "Aha!" moment of your own. That's when you'll know it's done.

TDY 93/94

CASE STUDY: A GAME FOR EMPLOYEE RELATIONS TRAINING

Source: "The Employee Relations Game," by Ellen A. Ensber and Jeanne Hartley, *Training & Development*, December 1992, pp. 21-23

In response to the stress of revised labor laws, Centinela Hospital Medical Center in Los Angeles devised a 6-hour class called "Employee Relations for Managers," a particular highlight of which was the Employee Relations Board Game. This article explains the game, which is designed to stimulate discussion and learning about labor laws and company employment policies. The game can be modified to accomodate the needs of any company using it. Sample questions and game rules and play are explained in this article, along with guidelines for closure following the game. (AN154)

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SIMULATIONS: SELECTION AND DEVELOPMENT

by Walter W. Wager, Stuart Polkinghorne, and Roger Powley

Introduction

Developments in microcomputers, multimedia and hypermedia software have increased interest in simulations and instructional games for educational and training situations. However, simulations are not well understood by most neophyte designers and trainers, and there are no clear guidelines for matching teaching requirements of a particular goal to appropriate methods. Furthermore, there is no strong body of literature to aid the trainer or developer in choosing among the many different types or formats of simulations. The selection problem is further complicated by the lack of consistent use of terminology or a taxonomy of simulations (Cunningham, 1984). This paper begins by defining and discussing variables that affect the selection or development of a simulation and then presents an algorithm for simulation selection that systematically considers these variables.

Definitions

One problem in discussing simulations is a lack of agreement on what constitutes a simulation. Furthermore, there is confusion between the terms *simulation*, *simulator*, and *simulation-game*. We favor the definition given by Barton (1970): "Simulation is simply the dynamic execution or manipulation of a model of an object system [something to be studied] for some purpose" (p. 6). Hill (1989) differentiates between the terms simulator and simulation. A *simulator* is the physical interface between the learner and the underlying object system, while *simulation* is the operation of that system. A *simulation-game* involves the element of competition (Heinich, Molenda & Russell, 1985). The player of a game attempts to win or better a previous performance. In the process of playing a simulation-game, the learner may solve problems and learn many rules and strategies. These definitions allow for a lot of latitude in what may be considered a simulation.

The earliest simulations were probably war games. It became evident that these games had a strategic or educational function as their players tried various strategies to "win." Through these games, theories underlying force manipulation, concentration of firepower and other variables could be tested for the purpose of formulating rules or attitudes or for solving problems (Granger, 1971). Today, simulations are still a very important part of military and industrial training. Sophisticated computer graphics and new display devices have made it possible to simulate three dimensional situations without using real equipment.

A simulator is generally capable of giving one of two types of feedback: (1) Natural feedback is a representation of the consequences of learner performance (e.g., the plane simulation "crashes" if the student makes a mistake); and (2) Informational (instructional) feedback, that provides additional information about the learner's performance and is corrective or instructional in nature. The ability to provide natural feedback is often seen as a desirable instructional characteristic, as it adds reality to the situation. However, the consequence of an incorrect action may not always occur immediately, and the learner may never realize the connection between the action and its consequence. Some simulators are not capable of giving informative feedback, so performance must be evaluated by an observer.

Variables Affecting Simulation Selection

Figure 1 presents the major variables and the multiple levels within those variables that affect simulation design and selection. The sheer number of variables and their permutations and combinations make it difficult to consider them simultaneously. One instructional design task seems to be isolating the instructional decisions that must be made so that attributes of a simulation that make it appropriate to the type of desired learning outcomes, the type of learner, and the conditions of learning are determined sequentially and in consideration of other variables such as stages of learning, fidelity, formats and logistics. The order proposed in this paper was determined by considering first the type of learning outcome desired, the complexity of the performance environment, and the experience level of the learner.

Type of Learner

Most simulations involve learner interaction. However, the degree and type of interaction required may depend upon learner characteristics (Clariana, 1989). Alessi (1988) identifies three categories of learners: (1) novices, who bring little previous knowledge to the learning task; (2) experienced learners, who bring a fair amount of knowledge which aids their understanding;

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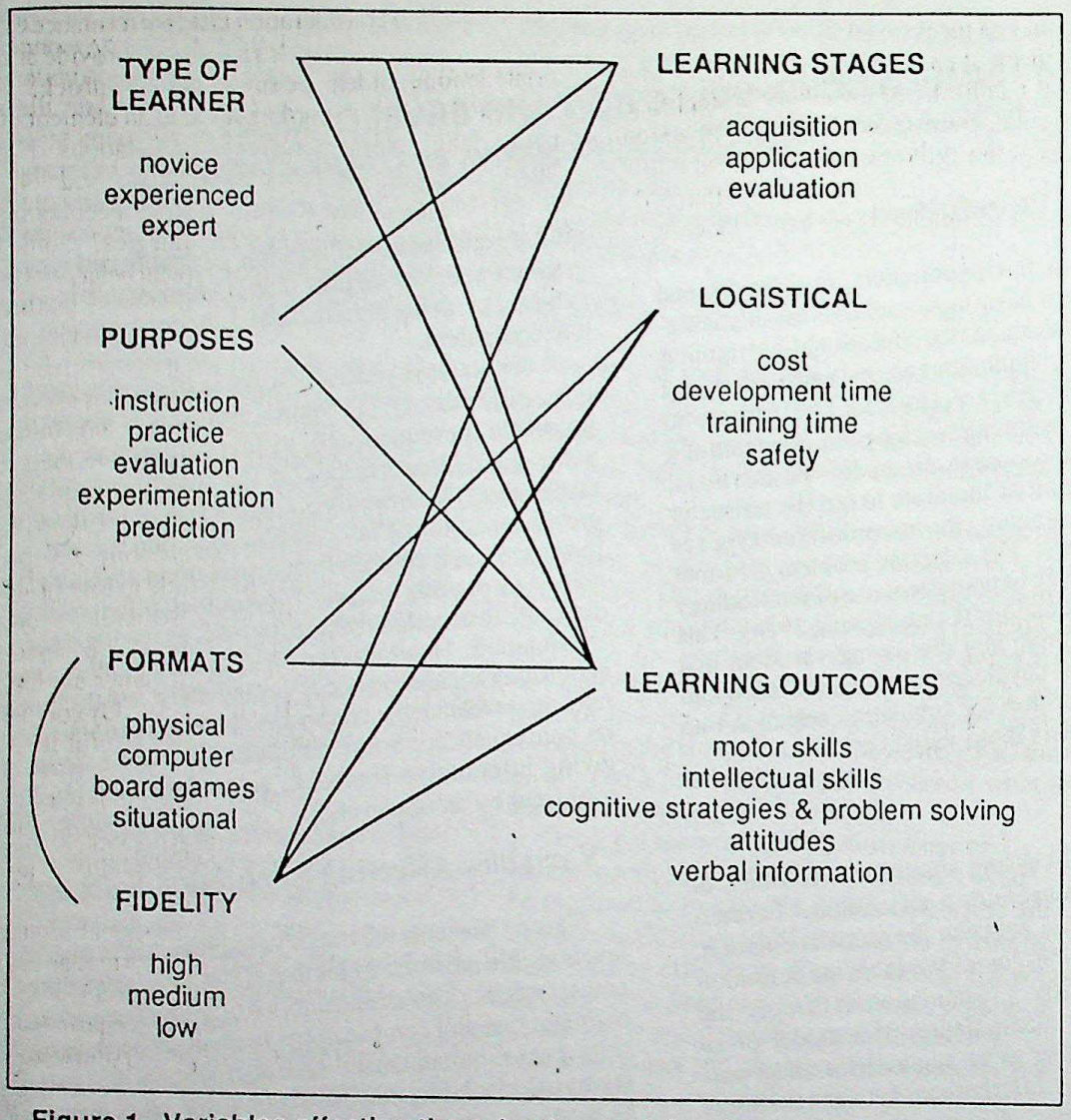

Figure 1. Variables affecting the selection and development of simulations (lines show important interactions among variables)

and (3) experts, who start with a high level of performance on a similar task and can transfer what they know to learning the new task.

Consider the task of trouble-shooting an electrical circuit. Novices can learn a great deal by watching a computer animation of electrons moving through a circuit, whereas experienced and expert learners would already be familiar with this principle. As learners become more experienced, it is useful for them to manipulate parameters in order to observe the effects on the circuit. A simulation for experienced learners allows them to test their understanding of principles through an interactive experimentation process. Finally, as learners master the topic, simulations can provide a variety of contextual situations to increase retention and transfer of the newly learned skills. A computer simulation for experts would provide a number of different circuit problems at higher levels of difficulty. As Alessi (1988) points out, learner type is a factor in choosing or developing appropriate simulations. It becomes obvious that the type of learner and the degree of learning support needed are not independent issues. Both must be considered; we would not specify the same simulation for a novice that we would for an expert.

Simulation Formats

Physical Models. Probably the most common simulation format is a physical model of an object system. For example, a model airplane is a simulation of a real plane, even if it does not fly. From the model one can study the shape and location of the parts, so that a discussion of what causes lift in a real plane can follow. Physical models—from automobile engines to human organs—allow students to conceptualize the relationships of parts or sequences of actions and to formulate questions about the real environment.

When people think of simulators they generally think of large, realistic operational models like flight simulators or automotive driving simulators. These models are

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functional in that the learner can manipulate the simulator, providing input to a mechanical or electronic device that processes their input and provides kinesthetic (motion) and/or visual feedback. Many educators feel that this type of feedback is necessary for motor-skill learning, especially when the skill must be performed automatically, as when a driver corrects for a curve in the road. While full-size physical simulators are generally expensive to develop and maintain, they are often necessary when training on real equipment is dangerous or real equipment is unavailable.

Part-task trainers are mock-ups or pieces of equipment that allow the trainer to set up a problem situation for the learner, who then applies previously learned procedures or principles to solve the problem. Their purpose is somewhat different from a full size simulator in that they are generally used for training only part of a task. Some examples are computer simulations of military radios found in large equipment (tanks, planes) that can be programmed to simulate a number of real-world situations. Using the computer mouse to set the various switches, the trainee can learn procedures for operating the radio. Many military weapons simulators, such as a simulator for an aiming system, are part-task trainers. Part-task trainers are generally smaller and less expensive to develop and maintain than full-size physical simulators .

Computer Models. Although large-scale computer simulations have been available on mainframe computers for many years, their access was limited to mainframe users. The proliferation of microcomputers has brought about an increasing number of computer simulations that can be used at home or in public schools. For example, Microsoft Corporation markets *Flight Simulator*, a computerized cockpit that you can operate from the keyboard of your computer. Video arcades feature a variety of simulators with realistic video feedback. Microcomputer-based simulations are expensive to develop, but once developed, the low cost of reproduction and the wide market base make them among the least expensive simulations to purchase and maintain.

Not all computer simulations are analogs of physical simulators. Simulations of ecological systems, for instance, are based on mathematical models of reality. These simulations typically allow the learner to manipulate one or more environmental variables to see the effect of that variable on the ecosystem. In a similar way, Claris Software's *Lemonade Stand* program simulates a simple economic system in a way that even children can understand.

Recent developments in computer and display technology such as the computer interactive videodisc and digital video interactive CD-ROMs have brought a new degree of realism into computer simulations. This heightened realism increases the potential that skills learned and practiced will transfer to the real world, but it also increases the complexity of the learning situation. As instructional designers begin specifying applications for these new "multimedia" simulations, they must remember to take into consideration task, performance environment, and learner variables in order to provide an appropriate amount of learner support and feedback.

Board Games. Board games add an element of competition and social interaction to simulations. However, board games lack fidelity to the real world. To what extent does a Monopoly™ player learn economic principles, or the chess player war strategies? Some board games specifically encourage a typical behavior from the players. For example, the purpose of Obstacle Course™, developed by Foster (1970), is for health service workers to learn about the problems facing indigent clients. Success in this game depends solely on luck or cheating the system. One of the participants, the "administrator" of the health services center, is briefed before the game to enforce the rules of the center strictly, and not to show any mercy toward the indigent players. Likewise, the "indigents" are privately told that cheating is ok because even if they are caught they have little to lose (a touch of reality here). The object, of course, is that at the end of the game the players can better understand the behaviors and motivations of their clients. Board games are inexpensive and can be developed relatively quickly compared to other types of simulations. They are useful for verbal information learning and sometimes, as in Obstacle Course, in developing awareness of attitudes. However, few higher-level skills lend themselves to a board game format, because board games lack the ability to provide realistic feedback.

Situational Simulations. A situational simulation treats the learner as a character in a particular context. One popular type of situational simulation is role-playing, which usually takes the form of a scenario in which the learner plays a prescribed role. Afterwards, the actions taken by the learner are reviewed for the purpose of providing instructive feedback. Microteaching is a form of role-playing used to reinforce teaching skills; mock courts involve role-playing to simulate the judicial system. Two other forms of situational simulation are "in-basket exercises" and case studies. In both the learner is presented with a problem that involves applying a procedure, rule, or problem-solving strategy to arrive at a solution. An expert evaluates the quality of the solution and gives feedback. Most situational simulations involve interpersonal interactions and often require modeling a particular behavior. They are appropriate for teaching attitudes and skills that depend upon interpretation and feedback from an expert or where the process of interaction is an important condition of learning (Martin & Briggs, 1986).

Instructional Purposes

It is generally recognized that simulations serve a variety of purposes (Cunningham, 1984; Reigeluth and Schwartz, 1989; Alessi, 1988). The five most commonly mentioned purposes are instruction, practice, experimentation, prediction, and evaluation. Often, in fact, a simulator is used for multiple purposes. For example, "Resusa

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Annie" is used for instruction, practice and evaluation in cardio-pulmonary resuscitation (CPR). It is not used for experimentation or prediction because the learning task is a motor skill and these purposes do not fit. Since simulations are generally expensive to produce or purchase, designers or trainers should consider the purposes they want it to serve. For example, Resusa Annie can be purchased with or without an electronic feedback mechanism. The simple model requires the presence of an experienced CPR trainer to provide appropriate feedback. The electronic feedback model could be used if an experienced trainer was not available. Although more expensive to purchase, the electronic model may be necessary in the long run if an experienced trainer is not available.

Most simulations seem to be oriented toward skill *practice* rather than instruction. Most are not sufficient to teach a new skill without additional instruction. For example, it is unlikely that a novice could learn CPR with just the simulator. In order to increase the usefulness of this type of simulation, the designer or trainer must develop what Reigeluth and Schwartz (1989) call an *instructional overlay*. An instructional overlay is supplementary material that facilitates the learning process. It may be a learner's guide, adjunct materials, a job aid, practice exercises, or any number of other materials that support the learning process. If a simulator provides support for the application phase of learning, the overlay may provide support for the acquisition and assessment phases.

Learning Outcomes

Conditions of Learning. Different types of learned skills have different requirements (conditions) for learning (Gagné,1985). Gagné, Briggs and Wager (1992) discuss five different domains of learning and some of the conditions for teaching each domain. The implication for simulation selection is that the simulation must provide those conditions that facilitate the type of learning outcomes desired. The major conditions for each of five different domains of learning outcomes are shown in Table 1.

One very important consideration is the type of learner interaction that needs to take place. For example, practice with kinesthetic feedback is an important condition for learning a motor skill. This has implications for a simulation designed to teach a motor skill. A physical (mechanical) simulator can best provide these conditions. Likewise, human interaction and modeling is a desirable condition for any simulation designed to change attitudes. A live human model in a role play situation would have a higher degree of realism than a model represented in an interactive video presentation. The goal in simulations selection or development is to optimize the conditions of learning by selecting an appropriate type of simulation. This makes learning type a key decision point in a simulation selection model.

Many instructional outcomes are what Gagné and Merrill (1991) call integrated goals, which include multiple objectives from different domains of learning. For instance, performing CPR includes assessing the condition of the individual, taking a pulse, clearing the airway, identifying the sternum, executing heart compressions and ventilation, and so forth. An integrated skill requires conditions of learning appropriate for each of the component tasks. The nature of the learning task demands the selection of a particular simulation format, such as a physical trainer or situational role-play. This implies that the instructional task may require many different types of instructional activity, some of which are best delivered by simulation and some of which are best delivered by other means.

Fidelity

Fidelity is the degree to which the simulator or simulation approximates reality. For example, physical simulators, like airplane cockpit trainers, have a high degree of fidelity. That is, they are replications of a real cockpit in terms of size, instrumentation, control mechanisms, and other features. A computer simulation in which the cockpit is represented on the computer screen has only a moderate degree of fidelity because many real aspects and details have been removed. Still lower on the fidelity scale would be a mock up of the cockpit, where some parts are represented by static pictures, some parts are missing, and some parts are operational. High fidelity is generally felt to be important to transfer. However, many studies have found that high fidelity can actually lower performance in early stages of learning when the environment is too complex and noisy (Alessi, 1988). A general rule might be to increase the fidelity of the simulation as learning progresses. This would provide a less complex model for the novice learner, and a more realistic model for experienced and expert learners.

Learning Stages

Assuming that the conditions of learning for the type of learning task have been met, the designer must also consider the role the simulator or simulation will play in the learning process. Reigeluth and Schwartz (1989) have identified three stages of the learning process they feel should be activated by instruction. These are *acquisition* of the skill, application of the skill and *assessment* of the learning that has taken place. During the acquisition of a skill the novice will need more instructional support than an experienced or expert learner. Gagné, Briggs and Wager (1992) present nine events of instruction that facilitate learning. During the acquisition phase of learning, the events of providing the objective, recalling prerequisites, demonstrating the new skill and providing learning guidance are often performed by an instructor or mediated materials. The simulation usually provides for eliciting performance and providing feedback.

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Table 1. External Conditions of Learning

Type of Learning	External Conditions
Motor Skills	Provide a model of the desired performance. Provide a verbal description of the steps in the performance, which serves as an "executive subroutine." Provide for practice with kinesthetic and corrective feedback.
Intellectual Skills (concepts, principles, rules, procedures)	Recall prerequisite concepts, or rules. Present attributes and examples of concepts. Allow for practice with a wide range of examples, starting with close examples and moving to far examples. Present the rules, principles, and procedures. Provide learning guidance through demonstration or application. Provide for practice with corrective feedback.
Attitudes	Provide information regarding the consequences of possible choice behaviors. Provide human models displaying desired behaviors. Problem-solving and cognitive strategies. Provide situations which call for the application of problem-solving and information-processing skills. Provide opportunities to discover new ways to organize and process information.
Verbal Information	Provide a meaningful context for remembering information.

During the application phase, the simulation provides for practice of the newly acquired skill. The conditions for this phase include practice in a variety of situations that are likely to be encountered in reality. This variety should facilitate transfer to real world situations. Finally, during the assessment phase, the simulation should be as high in fidelity as possible to see if the learner has mastered the skill. In summary, each of the three learning phases have different instructional requirements. In order to be complete, a simulation and its accompanying instructional overlay should provide for all three learning phases or all nine events of instruction. Novice learners, it seems, would learn most quickly from complete instruction while experienced or expert learners might be able to learn as well from less complete instruction, since prior knowledge allows them to fill in the gaps.

Logistical Issues

Finally, any model for simulation selection or design must consider logistical issues. This means considering cost, safety, learning time, development time and flexibility. One reason for choosing simulations over other types of instructional experiences is that they provide a sense of safety and security not available in the real environment. Often, for example, the real environment is too dangerous for the learner, the equipment or other persons, as in the case of training in first aid. Jet pilots

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train many hours in simulators before they take control of a real airplane. And it would be virtually impossible to practice CPR repeatedly on real people without doing them bodily harm. The degree of skill necessary and the consequences of incorrect performance in both of these cases argue for a high fidelity simulation to enhance transfer, regardless of the cost of the simulator. However, every training situation has constraints on how much can be spent, how long training can last, and how much time is available for development. The optimal solution is the one that is least expensive to produce and maintain and that meets the training requirements.

A Selection and Development Model

The remainder of this paper will be devoted to discussion of an algorithm aimed at helping designers arrive at specifications for an instructional simulation. The model does not consider selecting simulations for the purposes of experimentation or prediction. The model considers the variables: (1) type of learning outcome; (2) the complexity of the performance environment; and (3) type of learner to be the most critical factors in arriving at a set of selection or development prescriptions. Other variables associated with simulations are considered within these three variables. For example, simulation formats are considered when a particular format can best provide the conditions of learning for a particular type of learning, while fidelity is considered within the prescriptions for the different learner types and stages of learning. The model attempts, in the form of an algorithm, to lead the user through a set of decisions that consider learning outcomes, type of learner and complexity of the task in order to simplify consideration of the large number of variables.

The model requires that you answer a series of questions that will lead to an appropriate selection. The first question is about the nature of the learning goal. Your answer determines whether a particular type of simulation is needed to provide important conditions of learning. The next level of questions relates to the complexity of the task. This is important because if the task is complex, the nature of the learner becomes an important consideration in structuring the learning situation. If the task is not complex, a prescription is made for the user's consideration. If this recommendation does not seem reasonable or prescriptive enough, the user should consider the task complex, determine the target audience level, and follow the arrows to the right. This will point to a set of specifications for a simulation. Considerations involving fidelity, stages of learning, and the amount of instructional overlay are incorporated into these specifications. Logistical considerations are embedded in an attempt to prescribe the least expensive instruction considering the type of learning outcome and type of learner.

A Walk Through the Model

The discussion in this section refers to the simulation selection flow chart shown in Figure 2 and the list of prescriptions that follow in Table 2, to see how the model operates for several different types of training goals.

Goal 1: Local telephone operators will be able to use a new switching network to dial for overseas directory assistance. The answer to question number 1 would be no; it is not a motor skill. The answer to question number 2 would be yes; it is a procedure. Next is a question about the complexity of the task. While this involves personal judgment, let's say that the task is relatively simple, so the answer would be no. Therefore, to accomplish this goal, you would choose to use a low fidelity simulator or part-task trainer, perhaps supplemented by a job performance aid.

Goal 2: The mechanic will be able to troubleshoot the cause of ignition problems in an automobile engine with electronic ignition.

In this case the answer to the first question is *no:* it is not a motor skill. The answer to the second question depends upon whether the task of troubleshooting is procedural. If so, the answer is yes, and the next question is whether the task is complex. In this case the task is both procedural and complex. Based on the model, the next question is whether the learner is an expert, experienced, or novice learner, because the instructional requirements for each are different. Let's say that our learner is experienced, but not an expert. This leads us to prescription set E. From this we may presume some level of knowledge and perhaps start with a simulator that duplicates the problem found in a real system and matches a flow-chart or algorithm for troubleshooting that system. Learning will be facilitated by demonstrating the procedure to the learner while reviewing prerequisite skills. After the demonstration the learner would be expected to follow the model, practicing the procedure. The simulation should provide natural feedback (e.g., the engine cranks, runs roughly when the accelerator is pressed, and stalls at an idle), and perhaps corrective guidance if the learner goes too far astray (forgets to reconnect the battery). Finally, we would want to test the learners on their newly learned skill.

Goal 3: Health service case workers will understand the problems of their indigent clients, empathize with them, and try to find ways to accommodate their needs.

The answer to question number 1 is *no:* to question number 2, *no;* to question number 3, *no:* to question number 4 *yes*, the purpose is to formulate an attitude of empathy for indigents. Is the attitude deeply held as a part of a broader value system? The answer is *yes;* the client and social worker come from different cultural systems, and there is likely to be a lack of understanding and empathy. Is the learner an expert, experienced, or novice learner? Let's say the learner is a novice. This leads us to prescription set J. Require that the novice learner observe a role-play or video of an actual dialog between a case worker and a client. Show how there can be a problem in communication between the two because they come from different cultural systems. Have the learner assume the role of the client in a role-play activity, and have the case-worker present problem after problem.

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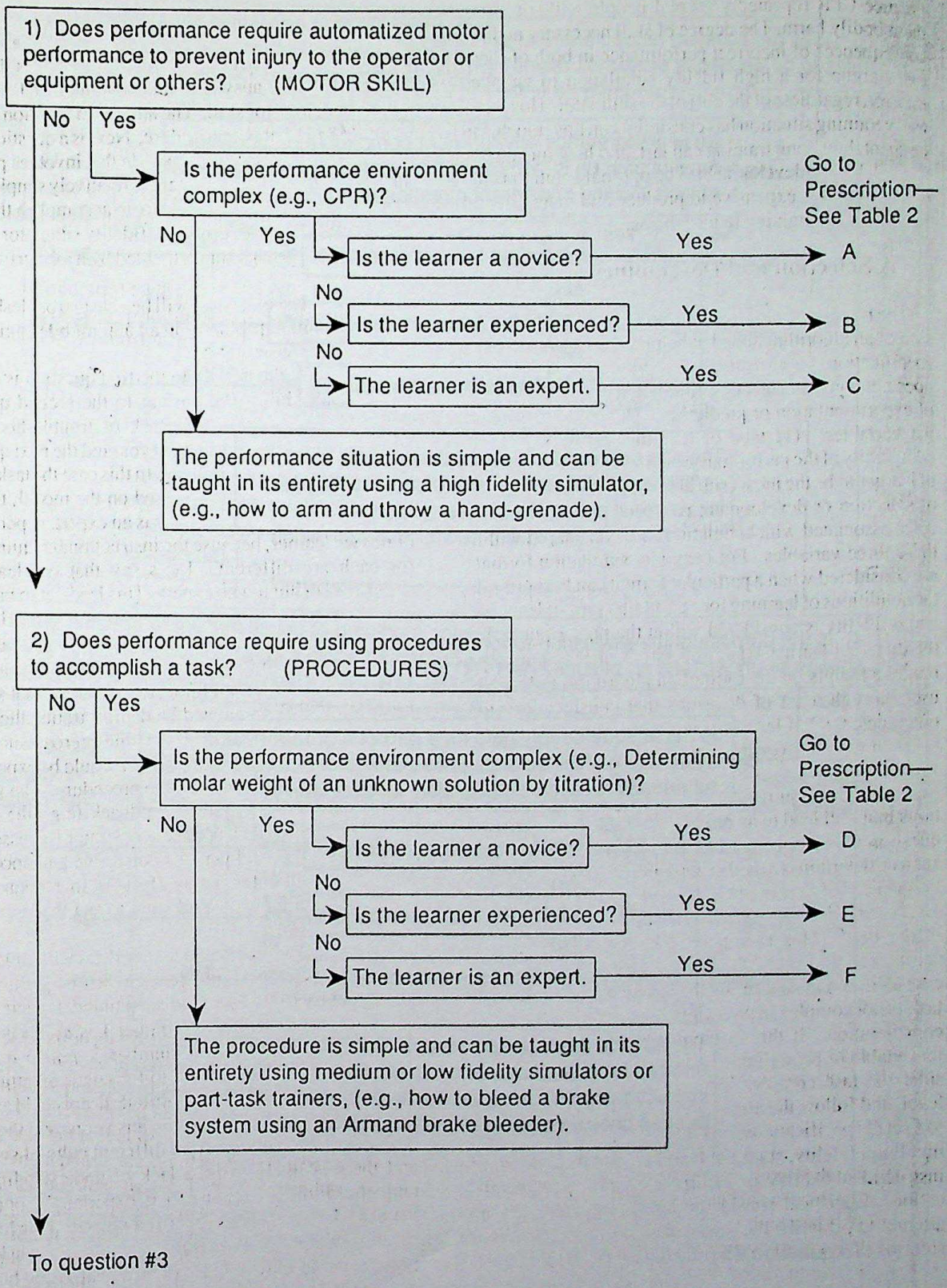

Figure 2. Simulation Selection and Development Model

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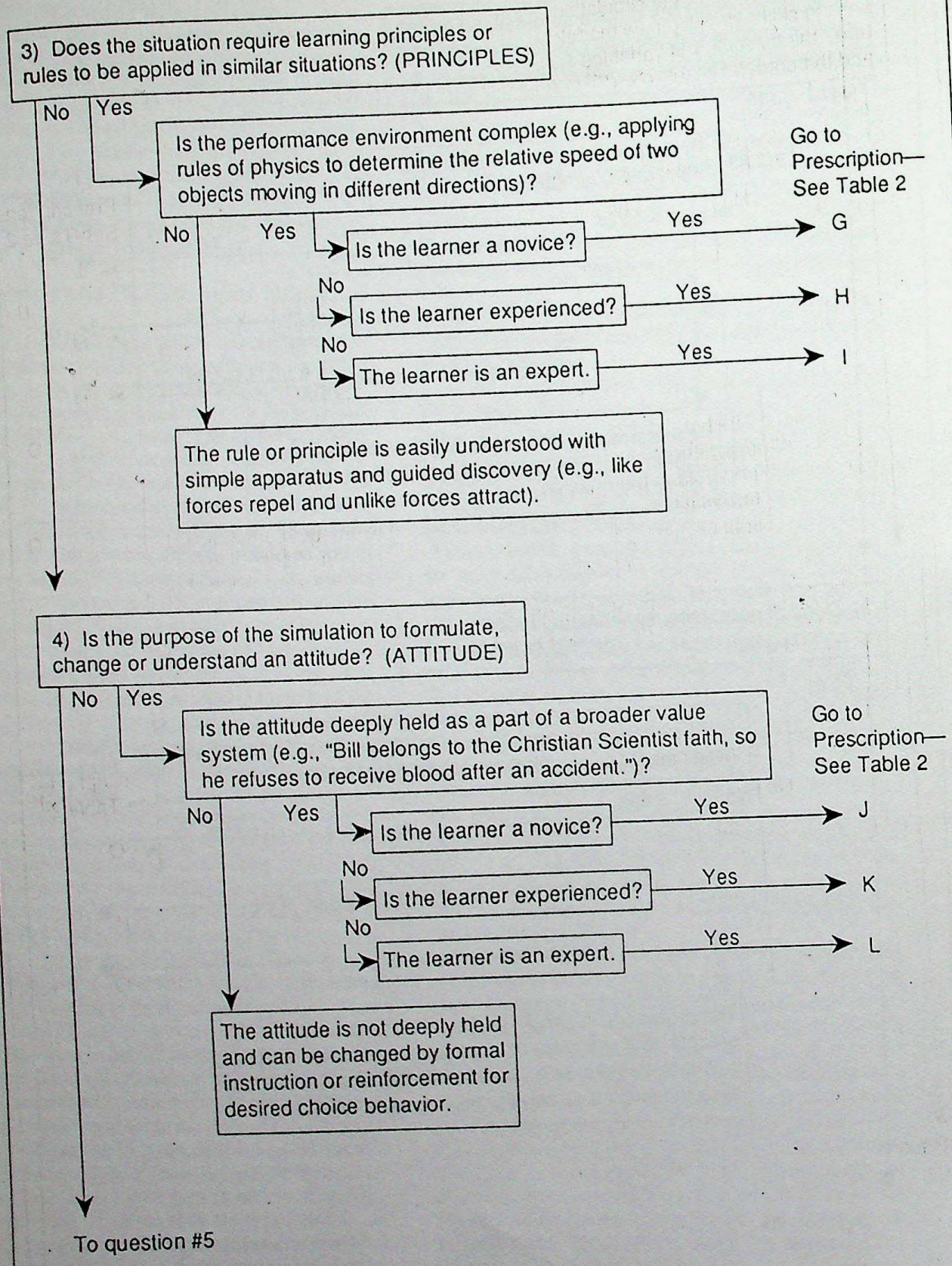

Figure 2. Simulation Selection and Development Model (continued)

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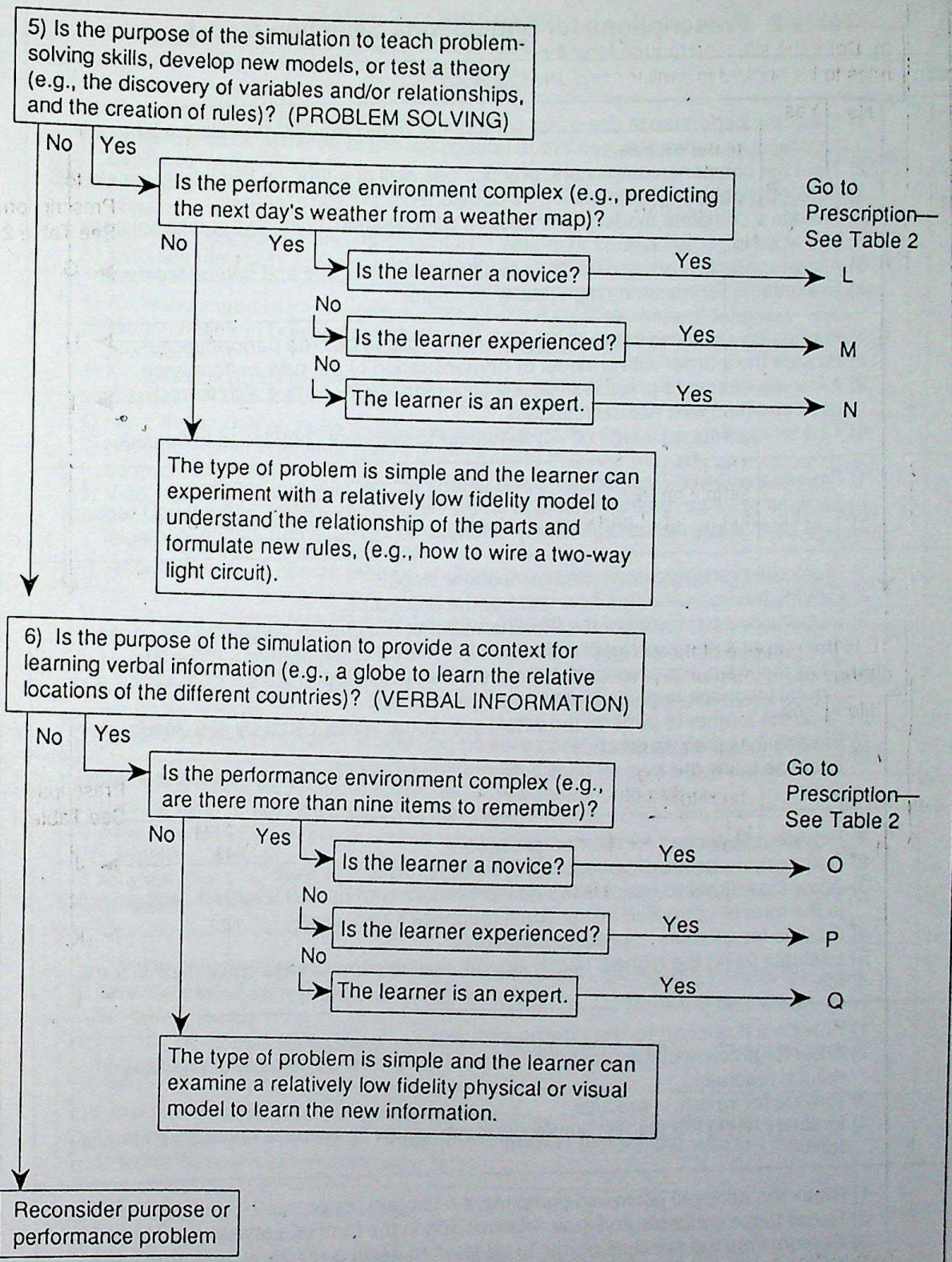

Figure 2. Simulation Selection and Development Model (continued)

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Table 2. Prescriptions for Simulations Selection Model

Selection	Prescriptions
A	1) Break the performance down into component behaviors and provide the learner with an executive subroutine. 2) Train the component behaviors; practice one skill at a time on low fidelity simulators. 3) Add complexity to the simulation as components skills are learned. 4) Provide a complete model of the desired performance, pointing out relevant cues and actions. 5) Allow for practice on high fidelity simulator with corrective and natural feedback. 6) Evaluate performance on high fidelity simulator.
B	1) Provide an executive subroutine and criteria for the desired performance. 2) Provide the learner with a model or demonstration of the new performance. 3) Allow the learner to practice new skill on a high fidelity trainer with corrective feedback and then with natural feedback. 4) Test for mastery on a high fidelity simulator to increase confidence in transfer.
C	1) Provide the executive subroutine and criteria for the new performance. 2) Allow for practice of new motor skill on the high fidelity trainer with natural feedback. 3) Test for mastery on the high fidelity simulator to increase confidence in transfer.
D	1) Break the procedure down into component steps. 2) Provide the learner with a flow-chart of the procedure. 3) Demonstrate each step of the flowchart so that the learner can follow the consequences of a particular path (this could be offered at the learner's request). 4) Allow the learner to practice the procedure step-by-step. Provide instructional and natural feedback to guide him through the process. 5) Allow the learner to perform the whole procedure without step-by-step feedback. 6) Provide for variety in practice. 7) Evaluate using the highest fidelity device available to increase confidence in transfer.
E	1) Provide a flow-chart for the new procedure. 2) Demonstrate the new procedure, reviewing prerequisite skills. 3) Allow the learner to practice the new procedure with natural feedback; add guidance in the form of corrective instructional feedback if necessary. 4) Provide for a variety of practice situations. 5) Evaluate using the highest fidelity device available to increase confidence in transfer.
F	1) Provide a flow-chart for the new procedure. 2) Allow for practice of the procedure (simulation should be capable of providing natural feedback). 3) Provide for variety in practice. 4) Evaluate using the highest fidelity device available to increase confidence in transfer.
G	1) Break the principle down into component rules and concepts. 2) Recall these concepts and their relationships in the form of a review. 3) Demonstrate the principle or rule to be learned using a visualization or example. Medium or low fidelity should be adequate. 4) Allow the learner to manipulate the model to test the principle or rule. Provide natural feedback where possible, instructional feedback if necessary. 5) Provide for practice in applying the rule in a variety of situations. 6) Evaluate application of the principle or rule using a previously unencountered situation.

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Table 2. Continued

Selection	Prescriptions
H	1) Recall related concepts and rules. 2) Present a demonstration of the application of the new rule or principle elaborating on important relationships. 3) Allow the learner the opportunity to manipulate the simulation and observe natural consequences. 4) Allow for practice with the model under a variety of conditions. 5) Evaluate the ability of the expert to apply the principle in a novel situation.
I	1) Allow the expert to manipulate a simulator that provides natural feedback. 2) Have the learner predict the outcome of a situation and apply the model to test that prediction. 3) Evaluate the ability of the expert to apply the principle in a novel situation.
J	1) Have the learner observe a role-play or sociodrama to gain awareness. 2) Have all learners become actors (participants) in a role-play where choices have to be made and where they can experience the consequences of those choices. 3) Videotape the role-play. Have participants explain why they made the choices they did, what alternative choices were available, and what the perceived consequences of those choices would have been. 4) Include the use of human models and positive consequences for desired behaviors.
K	1) Employ role-play where learners become actors (participants) where choices have to be made and where they can experience the consequences of those choices. 2) Have the participants explain why they made the choices they did, what alternative choices were available, and what the perceived consequences of those choices would have been. 3) Include the use of human models and positive consequences for desired behaviors.
L	1) Provide a reference to applicable rules, concepts and information. 2) Provide hints or help if the learner gets stuck. 3) If the learner takes an inappropriate action that leads to the premature end of the simulation, provide a review of the decisions that lead to the consequences. 4) Arrange problems according to the degree of complexity and move from simple to complex.
M	1) Provide an opportunity to interact with the simulation, giving only natural feedback. 2) If the simulation ends prematurely, allow the learner to review the steps leading to the consequence. 3) Provide for as high fidelity as possible to increase the probability of transfer to the real situation.
N	1) Allow the learner to interact with as high a fidelity simulator as possible. 2) Provide only natural feedback. Allow the learner to experiment with the model to optimize solutions or formulate new rules.
O	1) Provide the objective to the learner. 2) Provide a labeled model. 3) Provide a mnemonic for remembering the information. Discuss the information while the learner studies the model. 4) Have the learner practice discussing the information using the model. 5) For evaluation, have the learner draw a representation of the model adding the information to the drawing, or recall the information using an unlabeled model.

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Table 2. Continued

Selection	Prescriptions
P	1) Have the learner study the objectives to be learned while viewing the model. 2) Direct the learner to construct a mnemonic for remembering the information. 3) Have the learner recall the information using an unlabeled model.
Q	1) Have the learner study the information to be learned while viewing the model. 2) Have the learner recall the information using an unlabeled model.

Discuss how the learner felt and what the case-worker could have done to solve the problem. Have the learner switch roles and have a different learner play the part of the client. After the role-play, debrief the players to see what they learned from the experience. Watching a videotape of the interaction would help the learners see how they reacted in the situation.

Goal 4: Electrical line workers will be able to perform mouth-to-mouth resuscitation while rescuing a shock victim from a power pole.

The answer to the first question would be *yes;* it is a motor skill and the performance must be automatized. Also, the skill can not be practiced on real individuals because of the possibility of injury to the trainee or others. The answer to the second question is *yes*, the performance is complex. Not only must the trainee perform mouth-to-mouth resuscitation but they must do it in a vertical position while descending a pole. This skill is often taught to novices, therefore prescription set A would be appropriate.

Summary

Simulations can be more expensive than other types of training interventions. Yet they are essential for some types of learning situations, and superior for others. They are not the simplest type of instruction to conceive, develop or select; careful attention must be paid to many variables. Use of a model that systematically defines the variables and outlines appropriate decision paths should inform the process and help to eliminate the selection or development of simulations that sound good but fail to perform.

The examples given show how the model might be used to guide decisions about the use of simulations in instructional situations. Use of this model raises reflective questions about simulations and appropriate instructional overlays that will lead to learning that transfers well to real situations.

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TDY 93/94 IN BRIEF

OVERVIEW OF GAMES AND SIMULATIONS IN TRAINING

Source: *Designing and Evaluating Games and Simulations: A Process Approach*, by Margaret Gredler, Kogan Page Limited, 1992, 183 pages, £28.00

That a comprehensive theory is needed to undergird interactive exercises, contends the author, is indicated by 2 current problems: (a) the negative effects of poorly-developed exercises, and (b) the inconsistent application of the terms "games" and "simulations." First, the author notes that a game "is a world unto itself that is determined by its own particular sets of rules that are not replications of real life." On the other hand, a simulation places people in *bona fide* roles and allows them to experience the consequences of their actions in those roles. Furthermore, the exercise assumes that participants will address the issues and problems in a professional manner. After establishing these definitions, the author moves to a discussion of the elements of designing and evaluating such interactive exercises, dividing these elements into a number of chapters under 3 categories. For each chapter, she gives steps for evaluating that particular type of exercise.

- **Academic games.** For these, the author gives criteria for game re-design and suggestions for game development. She also discusses the effect of computer delivery of the game.
- **Tactical-decision simulations** are designed to interact with a complex evolving problem or crisis and bring it to a safe and/or logical conclusion. Separate chapters are included on design issues related to this category, as well as specific types of simulations: diagnostic, crisis-management, and data-management.
- **Social-progress simulations** are intended to allow interaction with other members of a social group in an effort to achieve a particular social or political goal or to address a particular challenge. The chapters in this category cover the design issues, challenging situations, and empathy/insight simulations.

Next, the author turns to an explanation of debriefing, with 2 models of experiential learning and various configurations of post-simulation activities. This is followed by a discussion of the similarities to role play, microworlds, and problem-solving, and by comments the use of video-disc technology. Finally, the author discusses the issues of competition, deep structure, reality of function, and the role of technology in games and simulations. (AN155)

AN INTERPERSONAL SKILLS GAME

Source: "People to People," by Sivasailam Thiagarajan, *Simulation & Gaming*, June 1992, pp. 222-229

"People to People" is a game which can be useful in getting people to share different points of view, explains the author. It is a "framegame," he says, meaning that it is deliberately designed to permit easy loading of new content. The game matrix bears some resemblance to a bingo card, but with both rows and columns numbered. Like bingo, a team wins when it occupies all cells in a straight line (horizontally, vertically, or diagonally). First, the leader labels the target groups of people for the matrix. For example, a game with 5 target groups might be (1) Iraqis, (2) Palestinians, (3) Russians, (4) Americans, and (5) Kuwaitis. If a team chose to try for cell 2-5, they would be required to make a statement explaining what the Palestinians (Row 2) thought of the Kuwaitis (Column 5) during the Gulf War. The other team can challenge with its own statement, and a third team serves as judges of the answers. The author lists a variety of ways he has used the game: for a strategic planning retreat, as an ice-breaker, for candidate selection, in character analysis, and for exploring diversity. (AN156)

A TEAM BUILDING GAME

Source: "A Game of Cooperative Learning," by Sivasailam Thiagarajan, *Training & Development*, May 1992, pp. 35-41

Learning Teams (*LT*) is a game to help people learn factual information. As the author explains, *LT* encourages people to actively process information instead of passively receiving it, and it covers the material being presented in any course of which *LT* is a part. There are 2 kinds of activities that make up the game: (1) a cooperative learning session where team members "coach each other, ask practice questions, and provide mnemonics," and (2) a competitive tournament session where teams compete against each other and score points based on their mastery of the course information. These competitive sessions can have many different formats, and the author describes one—called "third degree"—in detail, covering team organization, procedures/rules, use of materials, scoring, etc. He briefly discusses 6 other formats for the tournament sessions of *Learning Teams*, and then he explains that *LT* is a "frame game," in that the content can be easily exchanged for alternative applications. Some of the applications he enumerates are: new employee orientation, sales training, training hot-line attendants, orientation for employees being sent overseas, vocabulary improvement, and foreign language

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training. The author concludes by discussing modifications of the game to deal with time limitations, large groups, and different initial levels of knowledge among the participants. He also notes how to troubleshoot some of the problems that might be encountered. (AN157)

A SOURCEBOOK OF SIMULATIONS AND GAMES

Source: *Imaginative Events: A Sourcebook of Innovative Simulations, Exercises, Puzzles, and Games*, by Ken Jones, McGraw-Hill Book Company Europe, 1992, 2 Volumes, £110.00

Trainers are always looking for exercises, simulations, and games to spice up training. This 3-ring binder contains 50 original exercises, divided not into subjects, but into 3 broad categories of thought and behavior: creativity areas, efficiency areas, and personal areas. Each write-up includes a description of the game, objectives, time requirements and number of people required, resources needed, a brief description of how the game is played, a briefing statement to explain to participants how to proceed, and questions which can be used in debriefing. In addition, many of the exercises include work papers, in-box memos, and other materials with which to complete the exercise. (AN158)

HOW TO FACILITATE A DEBRIEFING

Source: "How to Facilitate a Debriefing," by Barbara Steinwachs, *Simulation & Gaming*, June 1992, pp. 186-195

Your trainees have just completed a simulation game. Without a careful debriefing, however, the exercise can lose much of its power. "A debriefing," says the author, "is a time to reflect on and discover together what happened during game play and what it all means." This article is a brief but valuable manual on how to facilitate a simulation game debriefing. First, the author describes some of the roles of the facilitator: affirmation, encouraging discussion by others, respecting and using silences, and keeping others from dominating the discussion. Next, she explains how to conduct the discussion if the group is larger than 20 to 25: (a) divide into small groups with a facilitator for each, (b) use the "fishbowl" technique, where a circle of 10 to 20 discussion participants are surrounded by others who may also contribute to the discussion by temporarily being seated in one of 3 empty fishbowl chairs; or (c) use a combination of large-group and small-group discussions. The author suggests beginning the debriefing immediately—without any break after the game itself in order to use the natural momentum of the game experience. Finally, she observes 3 phases of a debriefing, explains the function of each phase, and then offers questions which can help the facilitator lead the group effectively through each phase:

- **Description Phase.** Participants gradually emerge from the game world, impelled to describe what happened to them. They air their experiences and impressions, but also listen as other participants do so, filling in the whole picture.
- **Analogy/Analysis Phase.** Participants systematically examine the simulation game model as just played and as designed, identifying and exploring parallels with real-world situations.
- **Application Phase.** Participants focus on the reality presented by the simulation game, and they consider what courses of action are needed to act on these new understandings. (AN159)

ANOTHER PERSPECTIVE ON DEBRIEFING

Source: "Using Games for Debriefing," by Sivasailam Thiagarajan, *Simulation & Gaming*, June 1992, pp. 161-173

Debriefing, says the author, is an instructional process that can be helpful after many types of experiential activities, including emotional experiences, intensive team activities, and real-world traumas. He describes a procedural model that consists of 7 phases of questions to be used in a flexible chronological sequence: (1) How do you feel? (2) What happened? (3) Do you agree? (4) *Deja vu?* (5) What would you do differently? (6) What if...? (7) Can you improve this activity? Then he briefly describes 9 "d-games" (debriefing games), which are "framegames," that is, they provide a structure which can be used with a variety of content and applications. These "d-games" are: Dollar Auction, Mood Check, Live Likert, Group Grope, The Envelope Game, Take Five, Hypothetical Debate, Twenty Questions, and Q&D Surveys. (AN160)

STILL MORE ON DEBRIEFING

Source: "Debriefing: Toward a Systematic Assessment of Theory and Practice," by Linda Costigan Lederman, *Simulation & Gaming*, June 1992, pp. 145-160

"It is necessary to assess and evaluate the post-experience process through which participants are led," says the author. First, she reviews the literature on debriefing, highlighting the various definitions and purposes of debriefing. Then she discusses the 7 elements of the process (e.g. the guide/debriefer, the participants, the experience, etc.), and the 3 phases of debriefing: (1) introduction to systematic reflection and analysis, (2) intensification and personalization of the analysis of the experience, and (3) generalization and application of the experience. Finally, the author presents a 5-stage model for the systematic assessment of debriefing: (1) examination of the learning objective, (2) consideration of the situational constraints, (3) review of the debriefing strategies selected, (4) review of the implementation of the strategy selected, and (5) evaluation of the processing experience. (AN161)

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THE ETHICAL ISSUES IN DEBRIEFING

Source: "Ethical Issues in Postexperimental and Postexperiential Debriefing," by Lea P. Stewart, *Simulation & Gaming*, June 1992, pp. 196-211

Codes of conduct for psychological research underscore the importance of debriefing following the data gathering effort in order to undo any inadvertent deception and remove any negative consequences of the experiment. Such an understanding should inform debriefings of training simulations, as well, insists the author. Based on a survey of the literature, she discusses 7 ethical principles to guide debriefers:

- It is unethical to conduct an experience-based activity without providing an adequate debriefing. Debriefing provides an additional educational benefit beyond the experience alone.
- Debriefers must provide participants with a supportive atmosphere for knowledge-seeking.
- Debriefers should facilitate an ethically-guided dialogue among participants and between participants and debriefers.
- The debriefing style should be matched to the goals of the experience.
- The pace and depth of the debriefing should minimize discomfort whenever possible.
- Debriefers should guide participants through an ethical assessment of their behavior during the activity.
- Debriefers should always be open to their own learning. (AN162)

ICEBREAKERS

Source: "Kinder, Gentler Icebreakers," by Bart Dahmer, *Training & Development*, August 1992, pp. 47-49

Icebreakers do not have to be embarrassing agonies for training participants, this author says, and he proceeds to offer tips for planning successful, comfortable icebreakers. He advises that trust must be built up before the trainer asks trainees to take risks, and he reminds the trainer that the purpose of an icebreaker is to relieve tension, not cause it. Furthermore, he advises that icebreakers should be tested against the McBer and Company Learning Style Inventory or the Myers-Briggs Type Indicator to determine their potential effect on trainees. Several questions that should be answered about each icebreaker are:

- Could this exercise build barriers instead of creating rapport?
- Could participants fail at what they are being asked to do?
- Could it embarrass participants, particularly introverted ones?
- Should more trust be built before asking people to risk participation?
- Could the same end be achieved with less threatening means?
- Was the exercise chosen strictly because of its appeal to the trainer, and is it appropriate for other learning styles and personality profiles?
- Should a colleague review the exercise and offer his or her reaction to it?

The technique of placing participants in groups to facilitate icebreaking is also discussed. (AN163)

C. EXPERIENTIAL LEARNING ON THE JOB

SHOW THEM THE ROPES

by Carol Ann Mullaney and Linda D. Trask

Adults learn best when they are actively involved and motivated to learn information related to their jobs. But the most effective training is not always in the classroom.

Adults learn by seeing, listening, and doing. They demonstrate greater success when job-related and job-required knowledge and skills are emphasized more than reading and theoretical concepts. One method that provides this kind of emphasis is on-the-job training (OJT).

What and When?

In times past, when the consequences of improper training received less attention, workers acquired job-related knowledge and skills through a process of informal OJT. More experienced workers "showed them the ropes." Documenting the training experience was not a high priority. Today's more formal OJT assigns subject

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Checklist for Using OJT

Figure 1

Who performs or receives training:
- One or two trainees and one SME trainer
- A separate evaluator (if certification is required)

What training covers:
- Large or secured equipment
- Delicate and calibrated instruments
- Tools and equipment components of a complex system
- Delicate or dangerous procedures
- Classified information retained in a secured area

Why trainers select OJT:
- Participatory learning is essential to the program
- Classroom instruction is not appropriate
- Five or fewer employees need training
- Equipment and safety restrictions make other training methods ineffective
- Frequent changes in standard operating procedures allow minimal time for retraining
- Taking trainees out of work environment for training is not cost-effective
- Experiments or work in progress cannot be interrupted

When trainers use OJT:
- When one-on-one training is necessary
- For infrequently performed tasks
- When immediate changes are necessary to meet new safety requirements
- If an individual performance test is required
- When a proficiency level of qualification or certification is defined

Where to use OJT:
- Worksite/location
- On-the-job

matter experts (SMEs) to use structured, performance-based training to train others. With more emphasis on quality and continuous improvement, conducting training in the work environment is more effective because the tools and equipment needed to perform the task are available. To conduct training in this manner not only helps improve quality, it also helps resolve safety, health, and environmental issues related to equipment, materials, and actions.

OJT is appropriate in many situations, especially those that are difficult to duplicate in another setting. Appropriate situations include times when procedures and processes involve either delicate instruments or large, stationary equipment; when health, safety, and environmental considerations prohibit training outside the work environment; when few workers need training; or when downtime for classroom training is too costly. Figure 1 provides a list for determining when OJT is appropriate.

How and Who?

In the facilities and laboratories of the U.S. Department of Energy, training often relies on one-on-one coaching, hands-on demonstration, and practice. At Los Alamos National Laboratory (LANL), for example, training emphasizes formal preparation, structured delivery, and documentation. The New Mexico-based LANL considers the nature of the task to be trained, the level of training needed, the number of trainees, and the availability of instructional settings and resources. Trainees verify mastery of the training content by completing a knowledge or skill performance demonstration; the trainer evaluates the trainees' performance and documents the results. LANL requires structured OJT to meet qualification and requalification or certification and recertification requirements.

Like many technical organizations, LANL uses SMEs to plan and deliver OJT. Such organizations generally assume that those with the knowledge and skills in a particular technical field also have the ability and skills to train others. But many SMEs are technical specialists who work alone in a laboratory environment, lecture in universities, and write and publish research. Although these scientists and engineers are inventors of processes, their expertise may lead them to leap through a series of actions or steps when attempting to train others.

Studies by David Kolb and by Carol A. Mullaney indicate that the predominant learning style of many technical professionals is either assimilator or converger. This means that technical professionals focus less on people and more on technical problem-solving, practical applications, precise ideas, and abstract concepts. As a result, highly technical people can deliver instruction that is less than effective, especially for the majority of adult workers who are not assimilators or convergers. To be a competent and effective OJT trainer, an SME must develop training sessions based on adult learning principles, diverse learning styles, and motivational concepts. But SMEs in technical environments frequently do not have the knowledge, skills, and attitudes needed to be effective workplace trainers.

ROPES

The ultimate success of structured OJT depends on the organization's commitment to improving training quality. As a part of that commitment, an organization's decision-makers must foster conditions and provide re-

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Sample OJT Lesson Plan
Using ROPES Model to Develop Lesson Plan Outline

Figure 2

Lesson Title/#: _____ Date: _____

Equipment/tools: _____

Lesson objectives:

1. _____
2. _____
3. _____

Mastery standard: _____

	Lesson Content Outline	Instructional Method/s
R O	▼ Rapport ▼ Overview ▼ Objectives—what, how, why ▼ Lecture/discussion ▼ Criterion for mastery ▼ Equipment, supplies, tools, gear ▼ Safety/health/environment	▼ Discussion
P	Present lesson ▼ Major point ▼ Major point ▼ Major point ▼ Review ▼ Supervised practice	 ▼ Demonstration ▼ Walk-through ▼ Modeling ▼ Coaching
E	Evaluate	▼ Performance checklist
S	Summarize ▼ Review steps ▼ Link to future lesson	 ▼ Lecture/discussion

sources that lead to effective training. These conditions are essential:

- OJT should be used in appropriate situations.
- Trainers should have technical competence and extensive work experience.
- Trainers should receive organizational support.
- Organizations should provide developmental experiences for OJT trainers to improve the knowledge, skills, and attitudes critical to planning and delivering OJT.
- Trainers should plan and prepare structured OJT using an effective training model.

To help SMEs plan and deliver effective OJT instruction, LANL implemented a model OJT program about two years ago. Called ROPES, from the old OJT expression about "showing them the ropes," the five-step model deals with problems inherent in using SMEs as trainers. Its five acronymic steps—Rapport, Overview and Objectives, Presentation of Content, Evaluation of Trainee, and Summary of Lesson—provide SMEs with a guide to plan, develop, deliver, evaluate, and document structured OJT.

Rapport. Step one in conducting a structured OJT lesson establishes rapport with the trainee. The goal is to get the trainee's attention, interest, and commitment. The trainer sets the tone by putting the trainee at ease, explaining the reasons for training, and any health and safety considerations to observe during the session.

Overview and Objectives. Step two provides an overview of the lesson and checks the trainee's previous experience before explaining lesson objectives. The objectives direct the delivery method and expected mastery level. Most training session objectives are at the "know or remember" level for knowledge content and at the "apply" level for skill content. Ruth Colvin Clark defines these two levels in her book *Developing Technical Training*.

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Explaining the objectives is critical because the trainer needs to let each trainee know what is expected of him or her. The trainer also explains how performance will be evaluated and what score is required for mastery.

Presentation of Content. Step three presents the lesson content. The trainer delivers the lesson using the most appropriate instructional methods, selected according to three factors: lesson objectives; nature of the content; and the trainee's previous experience. To make transitions clear, the trainer summarizes each major step before moving on to the next point. This also lets the trainer check the trainee's progress throughout the session.

The trainer provides practice and feedback with each major step or at the session's end, depending on the complexity of the task and the trainee's grasp of the lesson content.

Evaluation of Trainee. Step four evaluates the trainee. It begins only when the trainer determines that the trainee is ready to demonstrate mastery without further assistance or coaching. This is a critical step in the process because the trainer must evaluate the trainee's learning. Trainee evaluation is directed by the lesson objectives, which also determine whether task mastery should be demonstrated through performance ("apply") or through simulation, observation, description, or testing by verbal or written questions ("know or remember").

When the objectives are at the "know or remember" level, the trainer develops and uses a knowledge test, such as a multiple choice, true/false, or short answer quiz. At the "apply" level, though, the trainer develops and uses a skill demonstration performance checklist. The trainer explains performance level standards and the criterion for mastery at the beginning of the training session and again before the evaluation begins. The trainer then gives immediate feedback after the evaluation ends so the trainee knows his or her score.

If the trainee has difficulty with some or all of the task during evaluation, the trainer determines whether to completely or only partially retrain and reevaluate. The trainer determines this from the standards established for the task and the trainee's ability to meet the established criterion. If performing task steps sequentially is not essential, the trainer can try retraining and reevaluating only the steps that the trainee performed incorrectly.

Summary of Lesson. In step five, the trainer summarizes the lesson, reviewing major points. If this training session is part of a series or is connected to some future training event, the trainer communicates that information and may offer a preview of the next training session.

Designing the Lesson

As with all systematically designed training, structured OJT includes five stages: analysis, design, development, implementation, and evaluation. A job task analysis whether conducted by the SME or someone else, is key to the analysis phase. It helps with developing lesson plans during the design phase, determining lesson objectives, and selecting and sequencing lesson content.

The lesson plan clearly defines the following:

- Learning objectives (the outcome expected as a result of the training),
- Discrete steps in the task (from the job task analysis),
- Evaluation method (knowledge and skill demonstration),
- Special considerations for safety, health, and environmental issues,
- Tools, instruments, and equipment needs,
- Instructional methods, and
- Standard operating procedures or process documents on which the lesson is based.

Figure 2 shows a sample lesson plan using the ROPES model as a guide. This method of developing the lesson plan provides a means of remembering the steps in the OJT lesson. It also offers documentation of the lesson, consistency in lesson delivery over time, a plan for subsequent training sessions, and a handy reference for other trainers to use when teaching the lesson.

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TDY 93/94 RESEARCH SUMMARY: STRUCTURED vs. UNSTRUCTURED OJT

Source: "A Case Study in Forecasting the Financial Benefits of Unstructured and Structured On-the-Job Training," by Ronald L. Jacobs, *et al., Human Resource Development Quarterly,* Summer 1992, pp. 133-139

How does structured on-the-job training (OJT) compare financially with unstructured OJT? These authors used financial forecasting to conduct a study of these training techniques at a large truck assembly plant in the Midwest. The forecasting model, which had not previously been tested on OJT, proposes that for each HRD program option being compared, cost must be subtracted from performance value to obtain the benefit. The overt costs of a program, the authors explain, can therefore be deceptive, and trainers must be careful to evaluate the ultimate value of each option before initiating a training program. In each of the 3 tasks tested at the assembly plant, mastery was achieved through structured OJT in one-fifth the time it took through the unstructured approach, so that even though the financial costs of structured OJT were much greater than those of unstructured OJT, the ultimate benefit for the structured approach was double that of the unstructured one. The authors provide tables that illustrate their calculations, and they suggest that the forecasting model they used could be extended to compare classroom training with structured on-the-job training, as well. (AN164)

LEARNING FROM EXPERIENCE: THE KEY TO MANAGEMENT DEVELOPMENT

by Peter Honey

For some years now I have become increasingly interested in how to help managers make and take learning opportunities in the course of doing their normal work. Most working environments do not have learning from experience explicitly on the agenda nor do they give credence to the learning process as a deliberate, conscious activity. And yet learning from experience is clearly fundamental to all management development initiatives both on and off the job. This paper will explore what is involved in

- Creating a working environment that is favourably disposed towards learning from experience,
- Developing the skills of learning (abilities), and
- Adopting healthy attitudes towards the learning process (willingness).

Recently I have become fond of gathering together quotations that give useful insights into the process of learning from experience.

Here are four that I particularly appreciate and why. The first quotation is from Aldus Huxley:

> "Experience is not what happens to a man; it is what a man does with what happens to him."

This is spot on. It helps us understand that experience by itself does not constitute learning. The cynical remark that someone with twenty years experience has only had one year's experience twenty times sums up the hazard of assuming that experience alone is all that counts.

Secondly, a delightful quotation from Walter Bagehot:

> "To a great experience one thing is essential; an experiencing nature."

Learning opportunists have "experiencing natures" thus giving them the capacity to transform even trivial, mundane experiences into great ones. By contrast, reluctant learners are bored by the trivial and daunted by the great. We need to be clearer about what constitutes an "experiencing nature" and how to foster it in managers.

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Thirdly, a quotation from Edward de Bono who, in his book called *Opportunities*, wrote:

"Everyone is surrounded by opportunities. But they only exist once they have been seen. And they will only be seen if they are looked for."

De Bono goes on to recommend that organizations should have formal procedures for opportunity searching, arguing that if it is left to the discretion of the individual too many opportunities will be missed. Learning opportunists consciously trawl for learning opportunities. The reluctant learner, on the other hand, complacently assumes that it is enough to let learning happen "naturally" as if by some process of osmosis. They are therefore disinclined formally to search for learning opportunities.

By contrast the learning opportunist constantly has antennae tuned in to the possibility of learning from experience. We need to understand what practices and habits learning opportunists adopt to make and take learning opportunities.

My final quotation was never actually said (an opportunity missed!) but is my adaptation of an amazing insight by the Duke of Wellington about urinating. My version is:

"A wise man learns when he can, a fool learns when he must."

Learning opportunists are "into" learning whenever they can. Complacent learners tend to learn the painful way; by being "forced" to through external circumstances beyond their control. Strictly speaking it is not possible to "force" someone to learn, only to create the opportunity, but there are many examples where the complacent got their come-uppance when external factors, such as increased competition, market changes, financial changes, compulsory redundancy crept up on them unawares. Learning opportunists are less vulnerable since they are continuously developing themselves and are thus practised at changing and adapting without trauma.

The advantages, I see, therefore, of being a learning opportunist are:

- It adds an interesting, extra "learning" dimension to all that you do,
- It makes learning from experience a more conscious and deliberate process,
- It makes you more purposeful; determined to extract learning even from unremarkable, routine events,
- It helps you to learn from your successes not just from your mistakes,
- It makes it more likely that you will transfer learning from one specific situation to a broad range of other situations,
- It means you can articulate what you've learned and communicate it to others,
- It provides a recipe both for your continous improvement and for helping others to improve, and
- It helps you to keep ahead of, and attuned to, change.

The learning opportunist who reaps all these learning benefits finds that, in addition, their overall performance is enhanced.

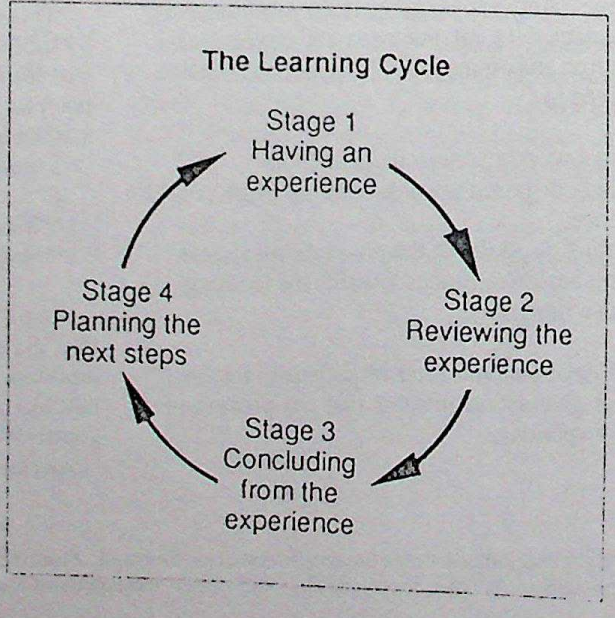
Now let us look at the mix of factors that conspire together to create learning opportunities.

Learning Styles

Learning style preferences clearly affect the way a manager learns from experience. Alan Mumford and I have written elsewhere about stages in the learning cycle and how managers with different learning styles distort the cycle.

To give some brief examples. Managers with strong Reflector/Theorist preferences tend to feel most comfor table with stages 2 and 3 in the cycle. They are therefore prone to "analysis to paralysis" postponing for as long as possible the "going for it" stages of planning and doing. On the other hand managers with strong Activist/ Pragmatic preferences tend to skimp stages 2 and 3 and to suffer from "quick fix" tendencies by racing headlong into stages 4 and 1. ("Don't confuse me with the facts.")

Learning style preferences also influence managers' likes and dislikes for different experiences or activities. Thus the Activist enjoys having a go, the Reflector enjoys sitting back and pondering, the Theorist enjoys conclusions and "answers", and the Pragmatist enjoys practical tips, techniques and shortcuts.



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Approaches to Learning from Experiences

As a result of a recent survey of senior managers conducted for the Training Agency, Alan Mumford and I have identified four different approaches to learning and here are our descriptions of each:

The Intuitive Approach

The Intuitive Approach involves learning from experience, but not through a conscious process. The person using the Intuitive Approach claims that learning is an inevitable consequence of having experiences. If questioned, he or she is able to talk in detail about a variety of different experiences describing what happened and what was achieved. The learning or developmental aspects are rarely, if ever, referred to. Indeed, the Intuitive Approach sees managing and good business practices as synonymous with learning. Someone using the Intuitive Approach, therefore, finds it difficult, and unnecessary to articulate what they learned or how they learned it. They are content that learning occurs through some natural process of osmosis.

Typical quotes from users of this Approach are: "I'm sure I'm learning all the time but I can't be more specific." "I just do it but I can't tell you how." "I do that already without calling it learning." "I suspect you are doing it all the time without realizing you're doing so."

Since people using the Intuitive Approach put their trust in learning as a "natural", effortless process they find it difficult to accept that there are disadvantages to be gained by making the process more deliberate and conscious, either for themselves or for other people.

The Incidental Approach

The Incidental Approach involves learning by chance from activities that jolt an individual into conducting a "post mortem." A variety of things can act as jolts but common ones are when something out of the ordinary crops up or where something hasn't gone according to plan. Mishaps and frustrations often provide the spur.

When something hits people using the Incidental Approach between the eyes they are inclined to mull over what happened in an informal, unstructured way. They may do this in odd moments such as while traveling between appointments or home from work or "in the bath." People using Incidental Learning tend to use the benefit of hindsight as a way of rationalizing, even justifying, what happened. As a result, they may jot something down "for the record" but not in the form of learning points, more as an insurance in case, subsequently, they need to cover themselves.

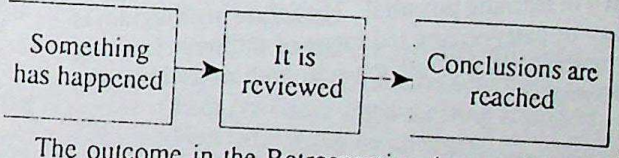
Typical quotes from users of this Approach are: "I learn from the unfamiliar parts of my job, not from the bits I am already familiar with and have already mastered." "If you know how to do something you aren't going to learn from it." "It's the originality of the experience that provokes more reflection." "You *only* learn from your mistakes."

People using the Incidental Approach often find it easier to conduct their post mortems by talking things over with someone else, preferably someone who was also present during the experience in question.

The Retrospective Approach

The Retrospective Approach involves learning from experience by looking back over what happened and reaching conclusions about it. In common with the Incidental Approach, the Retrospective Approach is especially provoked by mishaps and mistakes. In addition, however, people using this Approach are more inclined to draw lessons from routine events and successes. They therefore extract learning from a diverse range of small and large, positive and negative experiences.

People using the Retrospective Approach conduct reviews, sometimes in their heads, sometimes in conversation and sometimes on paper. The sequence, slowed down, looks like this:



The outcome in the Retrospective Approach is that considered conclusions are knowingly reached. An individual by reviewing, acquires knowledge, skills and insights or has them confirmed and reinforced. Skills-based courses often provide opportunities for conscious Retrospective Learning—though the opportunities are not always used properly.

Typical quotes from users of this Approach are: "It helps to hold things up to the light." "Reviewing is essential to put things into perspective." "You never really understand something until you write it down."

The Prospective Approach

The Prospective Approach involves all the Retrospective elements but includes an additional dimension. Whereas Retrospection concentrates on reviewing what happened after an experience, the Prospective Approach includes planning to learn before an experience. Future events are seen, not merely as things to be done which are important in their own right, but also as opportunities to learn. Individuals using this Approach are expectant learners with their antennae constantly tuned in to the possibility of learning from a whole variety of experiences.

In the event, what the individual expected to learn may not in fact materialize quite as planned. But the process of thinking about learning in advance makes it likely that they will extract some learning from the situation rather than drawing a blank.

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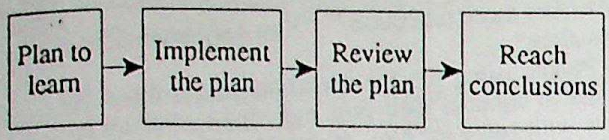
The sequence in Prospective Learning is:



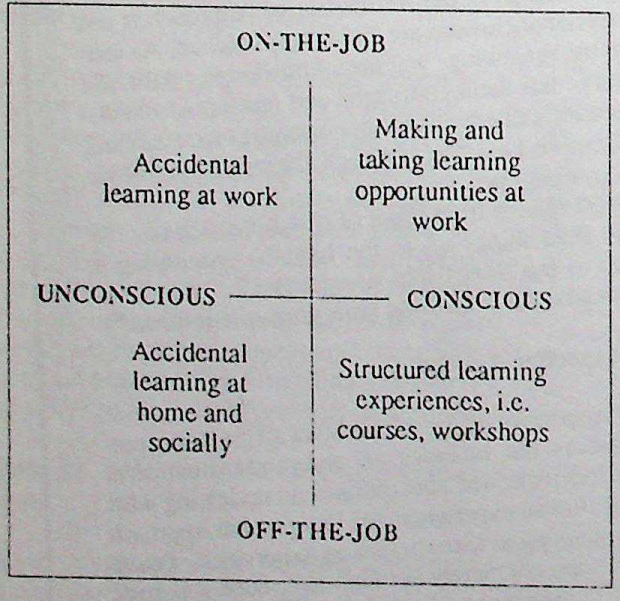
Again, courses provide clear opportunities for this Approach—but there are often weaknesses in implementation.

Typical quotes from users of this Approach are: "There is no substitute for thorough planning, not only to get things done but also to learn from doing them." "Sorting out what you want to get in advance increases your chances of getting something worthwhile."

Learning Opportunities

A learning opportunity is a set of circumstances providing a chance or possibility.

Whilst my primary focus in this article is on how to integrate work activities and learning, it is clear that learning opportunities are not confined to the world of work. Activities outside work, at home and socially are also rich in learning potential. The following diagram is one way of categorizing the range of different learning opportunities, on and off the job, both conscious and unconscious.



Recently I (together with Alan Mumford) conducted a survey amongst 25 senior managers to investigate how, having got to a senior position in their organization, they continued to learn from experience. This is particularly pertinent for very senior managers since formal management development processes have usually petered out below their level in the hierarchy. Our findings showed that most of these senior managers were users of the Intuitive/Incidental approaches. We investigated what normal, everyday, managerial experiences they claimed to learn from and these are what they cited in order of popularity.

- Attending meetings
- Participating in projects
- Contributing to conferences
- Developing others
- Negotiating
- Interacting with colleagues/boss
- Managing change
- Planning & implementing acquisitions/mergers
- Chance conversations over lunch/dinner/golf
- Dealing with union representatives
- Taking up a new job
- Interviewing
- Conducting audits/checks
- Meeting customers
- Traveling abroad

The first four items in this list amounted to virtually 50 percent of all the learning opportunities cited by the managers in the survey. Analysis of all the examples and anecdotes given by the managers reveals the following trends:

- Of the examples 60 percent were familiar experiences and only 40 percent novel experiences.
- Of the examples, 80 percent were minor "everyday" experiences and only 20 percent were major.
- Of the experiences 54 percent led to increased insights and realizations on the part of the managers and 43 percent resulted in increased knowledge. Only 22 percent resulted in increased skills.
- Of the experiences, 70 percent led to learning that was generalized to other unrelated experiences. Only 30 percent led to learning which was specific to the original experience.

The Working Situation

The external situation and the extent to which it is generous or mean in offering learning opportunities is also a major factor. Management development flourishes in an environment where learning opportunities are plentiful, where attempts to learn are encouraged and supported and where continuous development is built into the system. Here are some (no doubt there are more) of the ingredients that create a working situation that is totally conducive to the learning process.

The "ideal" working situation:

- Has a good process for identifying development needs,
- Has jobs that grow and expand,

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- Takes action to meet development needs,
- Encourages initiative,
- Allows people to decide how to meet their objectives,
- Has collaborative processes for setting objectives,
- Diagnoses the cause of problems,
- Encourages people to be open about their problems,
- Uses mistakes as learning opportunities,
- Welcomes new ideas,
- Constantly changes,
- Has top management who are actively involved in training and development activities,
- Uses job rotation, secondments and projects as learning opportunities,
- Provides opportunities to use new skills,
- Provides frequent feedback,
- Constantly strives to improve quality,
- Encourages people to aim high,
- Uses task forces and project teams,
- Encourages people to experiment with new ways of doing things, and
- Actively supports people's efforts to implement something learned on a course.

Knowledge About, and Skills of, Learning from Experience

In order to be learning opportunists managers need to know about the process of learning from experience and have the necessary skills to actually do it. The knowledge and skills possessed by an "ideal" learner are that they:

- Often review their experiences,
- Can describe the steps they go through to learn from experience,
- Openly share their experiences,
- Respond flexibly to the unexpected,
- Reach conclusions via careful thought,
- Have detailed recall,
- Can bridge the gap between artificial situations and reality,
- Put deliberate effort into learning,
- Ask questions,
- Listen patiently,
- Express thoughts fluently,
- Are open to new angles, possibilities,
- Identify their own development needs,
- Can convert ideas into feasible actions,
- Take risks,
- See connections,
- Ask for feedback,
- Adjust quickly to new, unfamiliar situations,
- Make specific action plans, and
- Convert criticisms into constructive suggestions for improvement.

Attitudes and Emotions About Learning from Experience

The learning opportunist has positive attitudes and beliefs about the possibility of learning from experience and a sufficiently robust emotional make-up to go at risk, try new things and bounce back after failure.

Such a manager would:

- Accept responsibility for their own development,
- Often volunteer to do things,
- Put more in to get more out,
- Avoid complacency,
- Accept that all events have learning potential,
- Believe you are never too old to learn,
- Treat projects, secondments and promotions as learning opportunities,
- Find it easy to be spontaneous,
- Be fascinated to learn more about themselves,
- Feel stimulated and challenged by tests,
- Feel intrigued by criticism,
- Explore alternatives before deciding on the best course of action,
- Accept praise,
- Analyze successes, not just mistakes,
- Sit and think, not just be active and do,
- Feel confident when meeting strangers,
- Feel exhilarated by changes,
- Thrive in ambiguous situations,
- Be determined to meet their needs, and
- Be determined to discover something interesting.

Conclusion

Learning from experience is fundamental to all management development activities. And yet most managers and management development specialists take learning from experience for granted. Helping managers to understand their learning styles and how to make and take learning opportunities in the course of their "normal" work are timeless wisdoms. We need learning, not learned, managers.

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ACTION-REFLECTION LEARNING

Source: "Action-Reflection Learning," by Victoria J. Marsick, *et al.*, *Training & Development*, August 1992, pp. 63-66

Action-reflection learning (ARL) is not simulation, these authors explain. It is, rather, a learn-by-doing alternative to expert-based training in which teams of learners work together to solve actual business problems. The authors discuss the characteristics and assumptions that go into ARL, and then they present 4 steps in designing such a program:

1. Ensure that line managers understand the way ARL works, that they are involved in decision-making, and that they create a list of potential project-problems that will be meaningful to participants and to the organization as a whole.
2. Develop learning activities centered around each project and its problem.
3. Plan informal team meetings and structured sessions that involve all participants.
4. Assign a facilitator (preferably someone whom team members do not already know) who can help participants reflect on their work and learn more about how they identify, assess, and solve problems. Ideally, this facilitator should be able to act independently of the organization's culture.

ARL should be used, the authors say: (1) when procedures are complex, with no obvious solution in sight, (2) when managers need to develop a cross-functional overview, (3) when learning is closely tied to cultural change, (4) when participants need to develop judgment and to think strategically, or (5) when participants prefer to learn by doing. The authors also touch on ways to meet resistance to ARL, and the article includes a sidebar with case studies of ARL in action. (AN165)

ACTION LEARNING

Source: "Turning Experience into Learning: The Strategic Challenge for Individuals and Organizations," by Cliff Bunning, *Journal of European Industrial Training*, Vol. 16, No. 6 (1992), pp. 7-12

Why is it that some organizations employ strategies that are ineffective at best, and sometimes even bring out the worst in human nature? The author examines this question in an article aimed at: (1) advancing the view that learning is the strategic variable in individual and organizational effectiveness, (2) discussing the processes involved in individual and organizational learning, and (3) proposing ways in which the organizational culture can be made more supportive of learning. He begins by discussing the significance of learning from both the individual and organizational perspective, and he dismisses ordinary experience as an important but often ineffective source of learning, especially in the organizational context. The author then turns to action learning as the more desirable model, listing 3 features required if this type of learning is to have legitimacy: (1) real-world action as opposed to simulations, (2) involvement of others, particularly those working on the same or quite different projects, and (3) an emphasis on learning, not just the action. He also examines 3 elements of the action learning process:

- The action taker (learner),
- The focus of action (project), and
- The action context (organizational culture).

The author concludes with some general ideas of how to foster an organizational learning environment, including: (1) greater use of action learning over extended periods of time, (2) encouragement of staff meetings and committees to pay attention to their processes rather than just to content issues, (3) encouragement of all staff to engage in regular reflection and initial self-appraisal, and (4) seeking to develop an organizational climate which is supportive of risk-taking. (AN166)

SELF-DEVELOPMENT

Source: "Developing People for Real: Some Issues and Approaches," by Roger Bennett, *Journal of European Industrial Training*, Vol. 16, No. 5 (1992), pp. 3-9

No one can be developed unless he or she wants to be, contends this author. After defining self-development as "enabling people to fulfill their potential, to expand their talents, and to progress through life with meaning and satisfaction," he examines 10 issues that must be resolved for meaningful development:

- Rhetoric vs. reality,
- Standardization vs. situation fit,
- Acceptance vs. commitment,
- Intention vs. action,
- Aspiration vs. achievement,
- Personal needs vs. organizational needs,
- Non-work vs. work,
- Favor bank vs. mutual investment,
- Cloning vs. diversity of talent, and
- Money vs. morality.

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Then he examines 3 companies' approaches to training that show how most, if not all, of these issues can be resolved. Next, he presents a 7-stage model of self-development: (1) resolving work/life demands, (2) distinguishing between identified/felt needs, (3) sharpening the definition of the needs and their relevance to the demands, (4) questions and answers (or advice) between learner and facilitator, (5) learner evaluation of proposals and ways of taking things further, (6) learner taking control of the process, with the facilitator relegated to a "needs only" position, and (7) self-organized learning. The author also discusses the roles of: challenge, action, information feedback, reflection, understanding and acceptance, and reorientation in the process of self-development. (AN167)

D. OUTDOOR TRAINING

MAKING OUTDOOR EXPERIENTIAL TRAINING WORK

by Glenn Martin Tarullo

The national fascination with outdoor experiential training continues to grow. Premier companies such as IBM, General Electric and Du Pont take hundreds of employees out of their offices and into the woods in hopes of building teamwork, increasing communication skills or boosting self-esteem. Prestigious MBA programs at the Universities of Chicago and Pennsylvania use OET in hopes of making their students better managers.

Consequently, suppliers that offer OET programs are doing a booming business. In 1991, Larry Wilson's Pecos River Learning Center, the biggest for-profit outdoor training organization in the country, ran 4,000 managers through its home base in New Mexico while it trained another 16,000 at sites around the country. Outward Bound U.S.A., its nonprofit counterpart, challenged 6,000 managers that same year.

Given the popularity of OET (also known as executive challenge, outdoor management training, and so on), you'd assume there would be some reasonably compelling evidence to support its effectiveness. But while anecdotal reports are easy to come by, there is scarcely any hard data that can help trainers, organization development consultants or line managers put on effective OET programs.

There's a reason for that. It's all but impossible to study outdoor experiential training per se because the OET label is slapped on a tremendous variety of activities. It can apply to everything from a simple "trust walk" to a complex wilderness simulation. And OET programs are conducted by facilitators whose backgrounds run the gamut from ex-mountaineers to Harvard Business School professors who specialize in organization development.

The fact that participants do something outdoors—something often called an "initiative"—does not mean that OET programs have anything else in common. The truth is that too many different types of programs and experiences are categorized under this broad label to allow us to make any generalizations about OET's effectiveness.

If you are considering an OET program, how can you make sure it will work? There are no guarantees. But if you can give solid answers to these five questions, you can significantly boost the odds that your program will be effective.

1. What Do We Want to Accomplish?

As obvious as this sounds, many programs have only vague objectives. The reason is that clients often are vague themselves about what they want to accomplish. If your client—a group inside or outside your organization—proposes an OET goal that is no more specific than "improving communication," "increasing cooperation," or "encouraging creativity," you're in for trouble.

These objectives are so imprecise that you will have no way to measure whether or not your program succeeded or what difference it really made to your business. Since there is no hard data to help you judge the effectiveness of OET programs in general, and since you obviously shouldn't depend solely upon the supplier's word about the effectiveness of its program, you need to supervise the design of the program in a way that will allow you to measure its results.

Since building teamwork is probably the most frequently mentioned objective of OET programs, let's assume that your client wants to improve the level of teamwork within his group. Your first step is to try to diagnose exactly what factors are hurting the team. Questionnaires or pre-program discussions with team members can usually help you understand the issues. Using this diagnosis as a basis, you can determine the objectives of your program.

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Try to frame these objectives in the form of a problem statement that is specific, measurable and relates to the performance of both the team and the overall mission of your organization. Then test these objectives against your client's sense of what he wants to accomplish. Designing a program that helps the client achieve these objectives becomes the basis for evaluating the success of your intervention.

For example, a senior manager may want to increase the amount of customer information that is shared among individual account managers in order to pump up the company's volume of product cross selling. The measure of your program's success then becomes a quantifiable increase in cross selling, not some vague feeling among account managers that they seem to work better together after the program. The key is to design a program that solves a real business problem in some measurable way.

It's particularly important to be clear about your objectives in OET because, unlike other types of training, outdoor initiatives are literally devoid of content. If you send managers to a course on presentation skills, you can be reasonably sure that the content of the program will focus on the skills and information they need to make better presentations. But if you send managers down a zip line or up a cliff or through a "spider web," you are not at all sure they will focus on the skills you want the program to develop--unless scaling cliffs or traversing rope courses are part of your company's strategic plan.

OET is driven by process, not content. Rather than information, OET gives participants an outdoor experience from which they can learn. We assume that adults can reflect on this experience, learn from it and use what they learn to improve on-the-job performance.

But unless you are absolutely clear on the problems you want your program to address, you may not know which elements of the experience to process. Do you discuss how the group set its goals? Or do you focus on how willing people were to share information and resources? Being clear on the program's objectives allows you to focus on the particular learning points you want your program to make. It also allows you to choose outdoor initiatives that highlight specific behaviors. If the objective of your program is to increase participation in team goal setting, then choose out door initiatives that involve a participative goal-setting process.

2. Why Do We Want to Go Outdoors?

The basic question here is: What do I hope to accomplish outdoors that I can't accomplish in a classroom? What is it about outdoor training that justifies the time and expense? Although there isn't much data to support this, I think the most effective types of OET programs have three unique characteristics that differentiate them from other types of training.

First, OET programs allow participants to interact on a very intimate level. Most of our interactions with coworkers are one-dimensional and governed by prescribed rules of business etiquette. We seldom let down our hair, shed our corporate masks and deal with one another openly. Yet studies of high-performing teams consistently find that intimacy and honesty form the glue that both draws people into a team and holds the team together.

Outward Bound, for example, offers an OET program in which teams sail together in a 30-foot open boat. The intense experience of eating, sleeping and working together on such an intimate level can help team members develop a sense of trust, support and cooperation that simply cannot occur in a classroom.

Many types of outdoor training also allow participants to share a strong emotional experience. Helping your partner walk across a log suspended 60 feet in the air, rafting down a white-water river together or simply scaling a 10-foot wall can be an intense experience. It can quickly forge a group of individuals into a team.

Research on human growth and development supports the significance of such emotional events as catalysts for change. Most people in the training field realize that behavior is difficult to change. In fact, when we look at the circumstances that seem to be associated with individual change, we often find some profound shock such as the death of a loved one, divorce or a serious economic setback. While none of these emotional events compel us to change in a particular direction, they do open us up psychologically. Because OET is itself out of the ordinary, and because it often involves some heightened level of emotional experience, it also can open up participants to the possibility of change in their work lives.

The final—and perhaps most important—characteristic of OET is its ability to become a metaphor for organizational behavior. The same behavioral patterns that limit a team's effectiveness in the office are repeated during outdoor initiatives. Groups often behave the same way whether they are building a wilderness shelter or developing a marketing plan. By analyzing what goes wrong during these outdoor initiatives, members of a team can get valuable insights into what is hurting them back at the office.

3. What Type of Facilitator Will We Need?

Outdoor initiatives have no inherent "message." The message comes from our interpretation of the experience. And since it is the facilitator's job to help participants analyze, interpret and gain insight from these experiences, the competence of the facilitator is the single most important element affecting the success of your program.

This is another reason the research on outdoor programs is often contradictory. The power of these experiences comes from the insights drawn from them—not from the experience itself. Evaluations often wind up measuring a particular facilitator's competence in making an initiative meaningful, rather than the effectiveness of a particular program's design.

The facilitator is also responsible for introducing content into the program. Typically, a facilitator will end an initiative by asking the team members to generate a list

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of the things that they might have done to improve their performance. Debriefing an initiative this way can be a valuable experience, but it is limited by the quality of the recommendations on the list. Unless the participants are particularly insightful, the facilitator must offer additional suggestions on how the team might improve.

If the group is working on becoming more effective problem-solvers, for example, the facilitator might introduce a model of effective problem-solving against which the team can evaluate its performance. The training model used in this case might be:

- Allow the team to experience an initiative that requires some type of complex problem-solving,
- Help the participants analyze the process they used to solve the problem,
- Introduce an "ideal" problem-solving method against which the team can evaluate its performance,
- Introduce a second initiative so that the team can practice its new problem-solving skills,
- Ask the team members to evaluate themselves again using the new model, and
- Help the team transfer its new problem-solving skills to a current business problem.

4. What Role Should I Play During the Program?

It's critical that you, the in-house trainer or consultant, clearly define your role in relation to both the outdoor facilitator and the program's participants. The worst possible approach to OET is one in which (a) you have only a brief telephone conversation about the goals and logistics of the program with your outdoor facilitator, (b) you bring participants to the outdoor site, where the facilitator takes over and delivers the "experience," and (c) then once the facilitator has transformed your participants, they are given back to you for a safe return home.

Although it may seem natural or polite to let outdoor facilitators take over on their own turf, it's important that you assume responsibility in four areas.

First, be sure that you communicate your group's goals to the facilitator. Are they clear, measurable and related to the goals of the larger organization? Can they be explained in the form of a problem statement? Assuming you have done all the legwork with your client well in advance, you should be the person to open the program with a review of the goals and objectives. This ensures that all participants are clear about why they are going through the program.

Second, you need to decide whether these goals can be reached using the particular outdoor initiatives your facilitator has suggested. Do they support the types of issues the team needs to work on? Even if they do, will you need to introduce additional material? Is your facilitator capable of delivering this content? If not, this might be a place for you to jump in as a content expert.

Third, what will you do during the actual initiatives? Will you be part of them or just observe? Since you are probably not familiar enough with the initiatives to really help, the danger is that you may become neither fish nor fowl—neither facilitator nor participant. I suggest that since you are not part of the team, you do not take part in the actual initiatives. You should, though, take an active part in leading or participating in the analysis and debriefing following the initiatives.

Last, it is your responsibility to make sure that the learning derived from this outdoor experience gets transferred back to the job. Like it or not, your facilitator's involvement will probably end at the parking lot. It's up to you to see that the progress your group has made doesn't end there as well.

One way to do this is to make the issue of real-life application part of the debriefing process. For example, you might have a discussion about the specific things team members will do when they return to work. What procedures will they institute, which behaviors will they alter, or what norms will they establish back in the office? You might then prioritize the list they come up with and use it as a basis for an agreement of what will be done and who will be responsible for doing it. Your role then becomes one of monitoring how well members honor this contract, and helping them get back on track if they drift.

5. Who Should Go?

In theory, this should be the easiest question to answer. If the goals of your program are to change individual characteristics like self-esteem or risk taking, then who goes and when isn't particularly important.

I have found, however, that it's hard for these "personal transformation" programs to change elements of someone's personality or management style in a day or two. Remember, it has taken participants 30 or 40 years of dedicated practice to get them where they are when they show up for your program. Expecting transformation from a few days in the woods is asking a lot.

Nor is it clear how changing one individual at a time can improve the larger organization. Many organizational problems are caused by how team members interact with one another—how we plan, work and resolve conflicts together. So unless an entire team attends, teamwork can't be your program's focus.

Consider the ramifications for the manager of the team that attends OET. Often the manager will take the brunt of both the praise and criticism for a team's performance. And since many teams seek help only after things have gotten awfully bad, managers in such programs can expect a lot of the discussion to be focused on their failure—in the eyes of some team members—to manage the team better. Although this discussion may be essential for the long-term health of the team, it can put a great deal of pressure on the individual manager—and your relationship with that manager.

Like it or not, the manager may blame you and the program for putting him in this uncomfortable position. You should prepare the manager for such criticism, and help monitor the group process so that the manager does

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not become the whipping boy for the team's problems. Team members often ignore their own responsibility for their team's situation and zero in on the shortcomings of their manager.

By thinking seriously about these five questions, you can significantly improve the effectiveness of your outdoor experimental training. Since there is a lack of hard evidence on the effectiveness of outdoor programs in general, and because any research that does exist may not be directly applicable to your program, think of any outdoor training you do as an experiment. The goal of this experiment is to improve the performance of a work team in some significant and measurable way. Your responsibility is to manage the design of the experiment in a manner that increases its chances of success. If the training fails to meet your objectives, at least you can gather information that will help improve your next program.

CLARIFYING THE CONFUSION: A PRACTICAL FRAMEWORK FOR EVALUATING OUTDOOR DEVELOPMENT PROGRAMS FOR MANAGERS

by Paul Dainty and Donna Lucas

Outdoor Development (OD) is an area that has generated interest, excitement and a great deal of mystery within the management development arena. This activity, which takes place outside the comfort of the traditional classroom and in environments where people frequently face challenging terrain and weather, can create strong responses in those undertaking it. In many ways these responses have been very positive as outdoor development has taken an increasingly prominent role in management development. It is now used by many, particularly in the UK and increasingly in Australia (Cacioppe and Adam, 1988) not only as part of broader management development programs, but also as a development experience in its own right. However, while it enjoys many keen advocates there are also problems associated with outdoor development. The area has engendered confusion, controversy and some degree of skepticism not only among managers and academics on the periphery of OD, but also among developers fully involved in the area. Indeed, the fact that one writer could comment: "I sometimes feel that it (outdoor development) appeals actually to the deep masochism of some managers", (Mumford, 1985) would seem to confirm the need for clarifying what outdoor development is and what it is not.

This article is a response to this need for clarification and builds on a criticism by Kirk in 1986 that packages of outdoor development events which are applied in the same way to any and every group of managers will have limited effectiveness. We believe there are several critical factors which should be thoroughly examined if program participants are to maximize the rewards from this management development activity. Thus, this article is intended to provide a framework for reviewing an outdoor development program for those responsible for executive development. Before considering any framework, however, it is worth highlighting the breadth of programs available.

Why the Outdoors?

There are a number of commonly held beliefs, some accurate, some erroneous, about outdoor development programs. These range from a view of it as a masochistic experience and SAS training, to claims that it can foster emotional rebirth. Certainly the outdoors has long been viewed as a potent vehicle for learning across a number of disciplines. Its power was recognized with the inception of Outward Bound. The military incorporates the harshness and changeability of the outdoors to test and challenge its members. Management developers cite many reasons for using the outdoors. For example, it is believed that in unfamiliar surroundings managers are stripped away from using learned "organizational behavior" and fall back on behaviors that are undisguised by hierarchical or "classroom" norms. Additionally, by placing managers in a situation of unfamiliarity, the outdoors provides a living workshop for managing uncertainty or change—something textbooks and lectures just cannot emulate. As a vehicle for learning it can be more powerful than classroom simulations, in that real consequences are produced by the actions (or inactions) of those involved.

Although these reasons for using the outdoors may be shared by a number of providers, trying to understand this form of development by looking at the programs currently available is not necessarily straightforward. Programs can differ quite considerably not only in terms of the type of tasks that participants are asked to perform, but also in terms of the type of review process utilized, and the overall outcomes that are intended by the course organizers.

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One might argue that as the outdoors is such a powerful and flexible vehicle for developmental activities, it is not surprising that these differences exist. Most people working in the area know that the outcomes and objectives of outdoor development programs can vary from that of improved leadership, team building and communication skills to encouraging broader personal development, which might even lead to changes in lifestyle. Developers will also know that the types of tasks found on programs can range from short activities with considerable involvement and instruction from outdoor specialists (such as rock climbing, canoeing, etc.) to long elaborate scenarios with little expert intervention. Moreover, it will also not have escaped those working in this field that the review process is conducted in a challenging, almost confrontational manner by some developers, yet in an almost uncritical, self-congratulatory style by others.

So what? Outdoor development is a diverse medium. But the problem is that there is a real danger that its diversity is misunderstood rather than managed, ignored rather than used for improving programs, and can lead to confusion rather than clarity about the advantages and disadvantages of using this developmental activity.

There may be many reasons for this. One may be a glaring lack of critical reviews which surround outdoor development.* A second may be the lack of research into the area. However, a third reason may be because of the dearth of evaluative frameworks which might inform one's approach to using the outdoors. In Table 1 we offer such a framework, not with the intention of circumscribing outdoor development, but with the aim of presenting a starting point from which to review or question the approach that is taken to OD.

Our framework consists of three primary categories, raised earlier. These are: the tasks undertaken; the review processes; and the intended outcomes. We do not claim that these are the only elements that apply to the outdoors, but viewed in relation to the individual participant, they are some of the most important aspects and certainly cannot be ignored in evaluating an approach to OD. Below, we first briefly outline this framework and then discuss the major elements in more detail.

Task Structure

The first of these three dimensions is concerned with how the tasks are structured. The type of tasks available on an outdoor course can be differentiated in a number of ways. One way is in terms of whether the tasks are highly prescribed (such as with abseiling or rock climbing) or very flexible (such as finding and rescuing someone injured and hidden in mountainous terrain). In terms of the framework we see a possible array of tasks along a continuum which ranges from those with a prescribed or "tight" structure (e.g. abseiling) to those with a "loose" structure (e.g. the rescue exercise). A tight task structure is one with narrow objectives and with little choice left open to the individual on how these objectives are achieved. Table 1 shows this continuum.

Table 1. Task Continuum

Broad objectives Unstructured Little technical support	← →	Narrow objectives Structured High technical input
Loose		Tight

Review Process

A second dimension is concerned with the processing approach used. Process work means different things to different developers. For us in this environment it has two meanings. In the first place it is concerned with the "process" by which the task was achieved. For example, this could include how decisions were made, how roles were allocated and the way in which participants supported each other in carrying out the task. The second meaning relates to the activity which takes place after the formal tasks given to participants. Some people call this the "review" or "wash up." Both of these definitions of process work are important, but we have emphasized the latter in the framework. The process by which the task is achieved is important and dealt with later in the article but it is the review process which is important in highlighting and drawing learning prints from the process issues which occurred during a task.

Processing or reviewing in this framework can range between what we call "low" and "high" intensity. By intensity we mean the amount of pressure which is put on course participants to give and receive personal feedback concerning individual behavior, to explore the feelings of others within the group and to take part in self-reflection and discussion. Thus a "high process" intensity would be a session which was characterized by high interaction, high challenge and directness. Low processing intensity means that the tutor's encouragement of personal feedback is minimal, or that the issues drawn from the event remain general rather than specific to individual action.

Clearly the notion of high and low is not to present two extremes but a continuum of involvement as in Table 2. Moreover, high intensity does not assume that developers themselves always adopt a high intensity approach, but that they facilitate this in order that participants can maintain this themselves.

Table 2. Process Intensity

Type of Feedback		
Low General/low personal focus	← →	High Specific/Personally challenging and direct

One article which takes a more critical, rather than "selling," approach to outdoor development is that of Kirk. (op. cit.)

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Combining task and process, and the continuums associated with each produces the matrix outlined in Table 3. Here task structure ranging from "tight" to "loose" is placed on the vertical axis, and processing with "low" and "high" intensity is placed along the horizontal axis. A particular outcome is associated with each combination of task and process intensity. The notion that task, processing and outcomes are linked is no revelation in itself. What is worthy of consideration, however, is how they are linked and the consequences of not considering these linkages in designing programs. Before this is explored in more detail, let us first elaborate on the third primary category, that of outcomes.

Chapman and Lumsden (1983) give us an idea of the possible outcomes available from outdoor development programs. They see these in terms of what Waters (1980) has classified as "Insight" skills, which comprise working in groups, coping with ambiguity and change, building trust and negotiating. They maintain that "at the best, the task comprising (our) program has been designed to highlight specific management or organizational issues and provide the participant with an opportunity to practice appropriate management skills."

Bank (1985) equally seems to emphasize the benefits from outdoor development courses in terms of the insight skills. Indeed, not only does Bank claim that the benefits

Table 3. Outcome Matrix

TASK	Low Process	High Process
TIGHT	QUADRANT 2 OUTCOME 2	QUADRANT 3 OUTCOME 3
LOOSE	QUADRANT 1 OUTCOME 1	QUADRANT 4 OUTCOME 4

Outcomes

The objectives of outdoor development programs are of paramount concern. However, as noted at the start of the article there is confusion and controversy over the range of outcomes of outdoor programs. Perhaps the most commonly held view is that OD is trying to develop in managers what the outdoors has traditionally developed in armed forces personnel. However, while some of the exercises stem from military training, the objective of most outdoor development programs for managers is not physical, nor is it necessarily to produce a watered-down version of commando training. There is nothing wrong with commando training for some people: what is wrong is the assumption that this is the only objective of outdoor development. It is easy to fall into the trap of believing that because the tasks involve physical demands, the outcomes are also physical. Some tutors do emphasize the physical element, or aspects such as a particular model of "leadership," which stem from their experiences in the armed forces. But the range of outcomes from outdoor development programs is much broader than this and even a superficial look at these highlights the limitations of military style approaches.

of outdoor development can include providing a positive experience of team building and the development of communication skills, but that it can also provide:

- Experience of dealing with change and uncertainty,
- A change in attitude about oneself and others,
- Self respect,
- A cure for burn-out,
- A successful way to alter human behavior, and
- Commitment in the manager to pursue a better lifestyle.

In fact, the range of possible outcomes from outdoor development would seem to suggest that all things to all people are possible spanning a wide spectrum from encouraging lifestyle changes to engendering fun and enjoyment. But while we agree that all the above outcomes are viable, they are only possible if they are matched with the appropriate task and process review procedures.

We have classified what we believe to be the major outcomes for outdoor development programs into the following four categories:

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(a) The development of self and other awareness,
(b) Broad concrete skills,
(c) Narrow concrete skills, and
(d) Fun/enjoyment

The last of these objectives, fun/enjoyment, is self-explanatory. What is important to remember, however, is that while fun/enjoyment is an acceptable outcome, we would argue that if this is the only end result from an outdoor development program, many developmental opportunities have been lost.

Narrow concrete skills refer to specific skills which can be applied in more or less the same way in many situations. Thus, the skill of active listening is one in which specific techniques can be learned and applied more or less similarly in various circumstances. Skills of negotiating, formal presentation, and in the outdoors, rock climbing, would be other forms of narrow concrete skills.

Broad concrete skills are those which have a range of possible approaches depending on the circumstances at hand. Sometimes called contingent approaches, broad concrete skills include leadership and team building skills, skills of implementing change, motivating others, and coping with uncertainty and ambiguity. These are largely the abilities considered to be the more complex people management skills.

The development of self and other awareness is possibly the least straightforward outcome, yet potentially the most important. Nevertheless, it is an aspect which seems to be minimized by executive developers. Mossman (1983) maintains that most OD activities are aimed at developing "process" and interpersonal skills, and that the notion of "self-awareness" is associated with courses for younger people as older delegates seem to have gained this already. Chapman and Lumsden (1983) also seem to emphasize skills which we have categorized as broad concrete skills. On the surface one might feel there is nothing wrong with this, and that outdoor development courses aimed at managers should indeed be particularly concerned with these. However, this is only true so long as individuals have a high degree of self-understanding in the first place, something which is not always a direct function of age. Without this self-understanding and an ability to be "other" centered, it is difficult to see how the development of skills in other areas will necessarily be effective.

An example of this is in relation to "leadership" skills. No matter how much management lecturers might encourage the use of different styles of leadership, if an individual does not understand how they themselves operate in various circumstances and the impact of their leadership style, then trying to develop a range of different leadership approaches is a hit or miss affair. On numerous occasions participants of various ages on outdoor programs have exhibited styles which they never dreamed were creating the impact they were effecting, until their received feedback. For instance, often individuals believing themselves to be "participative" have been seen as "dithering" by their followers. In other circumstances very directive styles, believed to show "confidence" have been perceived as selfish, overbearing and uncaring, with consequent problems in terms of followers' commitment and motivation. Moreover this feedback has come during a structured process session, rather than during the activity. Cues as to how they were being perceived by others were not picked up during the activity. The point is that individuals may well understand different leadership approaches intellectually, but unless they have a degree of understanding of their own style and the reactions of those around them, any learning may be ephemeral.

Individuals demonstrate different degrees of self-understanding and we do not claim that outdoor development can do anything more than encourage the development of what is often a life-long pursuit. Nevertheless, we have found that engendering self-awareness and other understanding, rather than being a possible spin-off from the pursuit of other objectives, is fundamental to managers' success and needs to be pursued as an objective in its own right. In management development generally, the notion of revealing "blind spots"; that is, becoming aware of one's behavior, attitudes, values and feelings which are known to others but not to oneself (Luft and Ingham, 1955) is extremely common. Few management developers would quibble with the notion that in almost all people-management situations an individual's inaccurate self understanding of their impact on others will limit their effectiveness. Why this idea should be minimized if not ignored in the outdoors seems a complete mystery.

Additionally, we would argue that the outdoors provides one of the most powerful mediums for the development of self and other awareness. Therefore, to forego these aims is to miss out on one of the outdoors' prime benefits as a manager development tool. This claim is made for a number of reasons:

1. An individual's real behavior is often clearly visible during outdoor development programs. It is impossible to hide behind organizational and educational norms in an environment where these no longer exist.
2. This behavior, and the impact of it, is readily available data for the course tutor and other participants to observe. In a process session at the "high intensity" side of the continuum, participants would be encouraged to give feedback to one another about this data, thus increasing the opportunity for individuals to gain an increased awareness of themselves.
3. The consequences of a participant's behavior can be immediately apparent to the participant, or to others on the program. If the participant is not aware of the impact of his or her actions as they are happening, they can be discussed within the review session.

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The very nature of the design of most outdoor development programs, in which a task is undertaken to provide the participant and others with data about themselves, followed by a review of the task, is critical in the development of self-awareness. Few other manager development activities furnish such a rich arena for collecting this sort of data, or provide the opportunity to discuss its relevance.

The four outcomes noted above, we argue, are a product of the task and processing aspects. In Table 4 we have shown which outcome we believe most likely to emerge from which combination of the two dimensions, to produce an Outdoor Development Matrix. We see the outcomes of self and other awareness more likely to be a product of a loose task approach combined with high intensity processing (Quadrant 4) and the outcome of fun and enjoyment more likely to ensue from a loose task approach and low intensity processing (Quadrant 1). We equally see the outcomes of narrow skills and broad skills more likely to be a product of different task and processing approaches. However, to explain how these outcomes might occur and which ones we believe are important to pursue it is necessary to consider in more detail both the range of tasks that can be provided and the processing approaches available.

Tasks and Management Development

It is probably the "task" aspect of OD which generates the most excitement and interest in this particular development activity. When outdoor development is mentioned the mind may conjure up images of rain-soaked managers attempting to pitch tents in the middle of the night or abseiling down sheer cliff faces. Although it is true that the sort of activities associated with Outward Bound and military training are often incorporated into outdoor training for managers, as mentioned earlier, there is a vast range of activities possible and there is no one set pattern of activities common to all programs. There are both benefits and problems with this, however. In terms of benefits it is important to emphasize that the outdoors has advantages that many other training environments do not have. It has the possibility of complete flexibility, with virtually no restrictions in terms of the physical environment. The tasks are usually unfamiliar to delegates and consequently everyone is starting from similar knowledge positions. Where delegates do have some previous experience this is rarely to the level of genuine technical expertise. The outdoors also strips away many of the trappings of the organizational role. A soaking wet, managing director dressed in old clothes and a rucksack has few of his/her normal symbols of power. Thus the individual's behavior can be seen outside the trappings of expert and hierarchical power positions.

However, this range also creates problems in terms of the choices developers have concerning tasks and the danger of providing activities which do not facilitate the intended outcomes. We differentiated earlier between "tight" and "loose" structured tasks. The more structured types of activities, such as abseiling or rock climbing, are possibly the most familiar outdoor development tasks. These generally demand a great deal of technical input and support. However, because of the prescribed nature of these activities, we could argue that the learning opportunities are also restricted. In constructing these tasks it is important to think in terms of the likely outcomes. For instance, a canoeing activity lends itself to only a limited number of possible outcomes. Primarily it will be the skill of canoeing. It might also lead to additional outcomes, like improving swimming or survival techniques, if the canoe were to capsize, but such outcomes are usually unintended spin offs. The same is true of other technical skills, such as abseiling, bridge building or rock climbing. The prime outcome is an improvement in these particular skills. Although such activities may be personally challenging, a program which emphasizes such elements suffers from the difficulty of transference. While some would see the achievement of difficult physical tasks in a harsh environment as giving managers the confidence to then overcome the difficul-

Table 4. The Outdoor Development Matrix

TASK	Low Intensity Process	High Intensity Process
TIGHT	QUADRANT 2 NARROW SKILLS	QUADRANT 3 BROAD SKILLS
LOOSE	QUADRANT 1 FUN/ENJOYMENT	QUADRANT 4 SELF AND OTHER AWARENESS

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ties of a harsh industrial environment, the reality is perhaps less romantic. If there is any relationship between the achievement of physical feats by themselves and improved effectiveness it is hidden. This is not to deny the people may gain a personal boost from such success, but we would question whether these outcomes fully utilize the comparative advantage of OD for management development.

Less structured tasks also have drawbacks. They may allow individuals to withdraw into the background, or switch off. The outcomes may also be less clear. With abseiling it is fairly easy to see a successful or unsuccessful outcome. However, the potential with less structured tasks is much greater for management development. Tasks in which delegates are given a wide range of choice to achieve a particular objective, like the rescue of an injured individual, within so many hours, provide a large scope for learning. Longer and more complex tasks seem to foster the creation of a "world of their own" for managers taking part, where complex inter-relationships, power struggles and miscommunication inter-weave to create a drama which is every much as real as the world in which the manager functions at work. We argue that in principle, such tasks are more likely to lend themselves to the development experiences most beneficial to managers. However, such tasks alone may not be inherently developmental and it is the review process which is critical in moving an experience from being enjoyable to being developmental.

An additional aspect of both structured and less structured tasks, and one into which developers clearly have an input, is an element which is seen by some as one of the most important aspects of OD. This is the level of risk inherent in the task.

Pettigrew (1974) writes of the power of "learning from extreme situations." He suggests that the most dramatic learning, that which "informs future action" comes from dramatic, spontaneous, intense experiences. Furthermore, he argues that in extreme situations there is a tendency to remove the environmental props in which the self rests and through these one can discover the essence of oneself. Thus, the emphasis placed earlier in the article on the development of self-awareness would seem to come, at least for Pettigrew, through experiencing extreme situations. Indeed as he argues, extreme situations "uncover strengths and weakness and tolerance for physical and psychological stress."

Certainly the outdoors can provide memorable and dramatic events for the participant to contemplate. One of the strengths of this medium is the fact that activities undertaken in the outdoors are often remembered long after the event, and can thus continually enrich one's understanding of oneself. In this way, it is the connection made between the "extreme situation" and how the participant behaved in the situation which enables learning of the self to take place.

However, considering tasks merely as vehicles for producing drama presents problems. Providing extreme situations for the sake of it may not be a valuable experience for participants, particularly if trainers are unclear about the reasons for doing so. Certainly, there would seem to be no shortage of courses willing to provide such an experience, and perhaps one of the hallmarks of outdoor development is that for many people it places them in a perceived "extreme situation." Coming up against a rock face and being expected to climb it for the first time, or walking through rugged and unfamiliar terrain in the middle of the night could be experienced as an "extreme situation." But while some models of outdoor development rely heavily on pushing delegates to their physical, emotional and psychological limits, we would argue that such an emphasis should be taken only by tutors who have a clear objective in using such an approach.

There is, therefore, a range of tasks which can vary in terms of structure, length and complexity, and developers have control over these. Clearly, they do not have the same control over outcomes. However, this does not consequently mean that developers should ignore the potential range of outcomes from different tasks. The outdoors is costly both in terms of trainer time and the cost of managers being away from their jobs, so it would seem important, not only from an educative point of view, but also from the point of view of cost, to ensure that the outdoors is used to its best advantage. We believe that the comparative advantage of OD in relation to management development lies in trying to achieve outcomes in Quadrants 3 and 4 of the matrix and that developers should be incorporating task activities which facilitate these potential outcomes. Outdoor development courses which concentrate on Quadrant 1 and 2 outcomes may not be exploiting the outdoors to its full advantage. Narrow concrete skills, such as negotiating, might be better off learned in the workplace. OD courses that concentrate on learning Outward Bound physical skills may not be full value of money in terms of management development.

However the task is only one aspect of outdoor development. Whatever tasks are constructed, as we have argued earlier, they cannot be seen in isolation from the processing or review processes of a program. If there is any aspect of OD which demands high skills, can require considerable personal responsibility, and is the lynch pin around which a program potentially can provide high developmental experiences for its participants, it is processing.

The Critical Role of the Review Process

Just as a myriad of tasks is available to the outdoor development tutor, as many different processing styles are also available. There are many options in terms of when, how, and who does process work. While some delegates only spend a minimal amount of time experiencing process work, others can expect to spend more time indoors than out, analyzing and reviewing activities and the part each delegate played in them.

However, the fact that there is a range of different ways of processing the activities highlights the signifi-

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cance of the role of the management developer, and the importance of the choice of processing style which he/she makes. The literature gives some clues to the role of the tutor in these programs, although this is rather vague. For instance, in writing on the role of the tutor in self-development activities, Radcliffe and Keslake (1981) suggest that the facilitator should "process the growth in the group and individual." They should not remain distant, but must be in touch with their own feelings. They believe it is impossible to provide deep insights into processes without some direct personal experience of such processes. Pedler (1981) suggests that foremost, the tutor should be the "tyrant," at least at the beginning of the process, but that the "high power" of the tutor should diminish and be removed by the end. He notes the irony of the trainer's role of "leading people to their own self-direction."

Although these statements begin to explain the developer's role, they still do not provide practical guidelines for work of this kind. In one sense this is not surprising as the notion that there might be one "correct" processing style is equal to the suggestion that there is a Holy Grail. Nevertheless, if developers are thinking in terms of the Quadrant 3 and 4 outcomes described earlier, then there may be approaches which are more likely to achieve some outcomes rather than others. These should not necessarily be seen in terms of prescriptions from the tutor, but in terms of their creating an environment in which the objectives of the course can be pursued. For instance, in relation to Quadrant 3 outcomes, some outdoor development models use the processing sessions to draw out from the events of the day general "principles" of good leadership, man-management or communication; the broad concrete skills noted earlier. In our view it is essential that developers get involved in this and do not leave the task to "explain itself." For instance, a tightly structured task aimed at a particular type of learning, like building trust, may fall short of its impact without the input of the tutor to explore the relevant issues.

This can be contrasted with an approach more in line with Quadrant 4 outcomes and the development of self and other awareness. Here greater emphasis is placed on encouraging delegates to receive and give feedback about the impact of their behavior on their colleagues. Processing in this style is often more personal, as it relates more to exploring delegates' own "blind spots," mentioned earlier. This can still take place in a number of ways. For instance, in reviewing leadership style a highly structured approach might ask each delegate to mention three "good points" and three "bad points" about each other's style. Alternatively it can be left to the delegates themselves (with guidance from the tutor) in a series of more free-flowing conversations. Even with less structured, more free-flowing dialogues, the style and involvement of the tutor can vary from just keeping the group focused on individual issues, to more emotional and sometimes dramatic tutorial interventions.

Thus, the role of the management developer in processing is critical but not necessarily straightforward. As shown above, although it is important to be aware of the overall purpose, course tutors can still take different approaches to arrive at similar conclusions. Consequently, in addition to being aware of overall purpose in looking at the tutor's role in outdoor development, it is important to be aware of one's own personal assumption about the tutorial role. The fact that the design of any self-development program and the creator of the program are interlinked is acknowledged throughout the literature. Honey and Mumford (1952) purport that courses generally reflect the learning style of the course coordinators rather than those of the course participants. Binstead (1980) talks about the degree to which the designer of any learning events is inside its creation. She/he is designing a learning interaction in which she/he has a leading role. Thus, the personal interpretation of the role and values of the tutor are crucial. This is particularly observable in outdoor programs, in that entire philosophies of processing are acted out according to the course tutor's values and beliefs. Consequently in addition to encouraging participants to self-reflect, it is important that course developers also reflect on their own assumptions about their programs.

Outdoor Experiences vs. Management Learning

The task/process model of outdoor development is perhaps one of the clearest examples of the Kolb (1984) learning cycle approach to managerial learning (Honey and Mumford, 1952). If the tasks provide the "concrete experience" stage of learning, then processing encourages "observation and reflection" and the formation of "abstract concepts and generalizations." The fourth stage of "testing the concepts in new situations" is provided by additional task opportunities during the program. Within this cycle, reflection is seen to be the key in getting people to "own" their own learning.

For Mossman (1983) the power of the outdoors "comes from the immediacy of the consequences of success and failure." Our view is that it is something more than this. The benefit of OD, as we see it, is in terms of what an individual does with this success or failure, and indeed with what an individual has succeeded or failed. In management development terms this is quite important. But perhaps equally important is that in many instances individual learning is facilitated by and, in some cases, dependent upon the developer and how he/she handles the individual's experience.

So far there has been no empirical work done to assess the impact of outdoor development in its various forms. Nevertheless, the OD matrix should aid developers in thinking through the various outcomes of outdoor development which could be derived from the different combinations of task and processing emphases. We have argued that not only is it the combination of processing approaches and task activities which is more likely to give rise to some outcomes over others, but also that some

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outcomes are more valuable than others in terms of management development. Our emphasis is on Quadrants 3 and 4, which we see potentially as giving rise to management learning, as against Quadrants 1 and 2, which we believe are more likely to give rise to outdoor skills and experiences.

However, we are not arguing that this is a firmly fixed relationship, nor that the individual can be divorced from the process. Neither, moreover, are we forgetting that no matter how loose the task or intense the processing, some individuals will not benefit in terms of self-awareness, or that other individuals may gain in terms of all four types of outcome and possibly much more. But we have emphasized the three primary categories of the framework, rather than the individual delegate, for two reasons. First, to emphasize the responsibility of the developer in having some impact on at least some of the outcomes for the individual, and secondly, to encourage developers to look at the areas over which they have some control. As we indicate below it is possible for developers to orientate their courses, not necessarily by pin-pointing a Quadrant, but certainly to the right side of the matrix rather than the left.

Outdoor Experiences—Quadrants 1 and 2

In Quadrant 1 with loosely structured tasks and low intensity processing, the end product would at best be the achievement of enjoyment/relaxation/fun. Participants' learning here, we suggest, will be very limited as neither the task nor the feedback process provides much data that can be used for individual reflection. Clearly this would depend on how self-aware participants were and on their assessment of areas they wished to develop. However, without information provided on their actions, either through task performance or others' observations, it is difficult to see how individual progress can be made.

In Quadrant 2, with tightly structured tasks and low intensity processing, the structure of the task itself should provide feedback on progress. The tutor's role is characterized by giving the individual support and encouragement and helping him or her to overcome difficulties in completing the task or developing the appropriate skills. However, the narrow concrete skills developed here, such as active listening or outdoor pursuit skills are, in our view, more cost-effectively learned in other environments, or less appropriate to management learning.

Management Learning—Quadrants 3 and 4

In management terms, courses aimed solely at 1 and 2 type outcomes are very limited. We would argue that outcomes in Quadrants 3 and 4 are more appropriate to developing managers. With regard to Quadrant 3, with tightly structured tasks and high intensity processing, the most likely outcome is broad concrete skills. These include the development of aspects such as leadership skills, team building and building trust. In the main they would be largely people management skills which demand not only a structure in which to practise those skills, but also participation by tutors to help delegates develop skills. Most group tasks, structured with some degree of learning in mind, will provide a manager with some understanding of team effectiveness, given the manager's motivation to learn. But, as argued earlier, the task alone is not enough. What is necessary in addition is strong help from tutors or other course participants to derive as much learning as possible from tasks meant to encourage the development of concrete skills. The tutorial style can be "soft" or "hard" but because of the difficulty in developing the skills in these categories, tutors should be highly involved in the processing.

With programs aimed at the fourth quadrant (a combination of loosely structured tasks with high intensity processing) the intention is to help individuals understand personal strengths and limitations and set their own personal learning agendas. In Quadrant 3 the awareness of such agendas is assumed to some extent. Indeed, without that understanding, the learning from the task and process approaches found in that quadrant will be more limited. With Quadrant 4 the intention is more for individuals to reflect on and explore areas of development. As these may not be known in the first place, then it is clearly important not to set highly structured tasks with little freedom of choice. Nevertheless, tasks cannot be completely unstructured and it would seem most appropriate for programs concerned with management development activities to be structured around management themes. In this case the involvement of the tutor is essential in guiding the individual or group towards greater understanding of his or her limitations and strengths.

We see a degree of interplay between Quadrants 3 and 4. Managers are unlikely to be completely unaware of their behavior and are more likely to be unaware only of certain aspects of it. Moreover, few tutors are likely to be able to precisely engineer a Quadrant 3 or Quadrant 4 outcome. Hence, programs would be concerned with facilitating right-hand side experiences rather than those from a particular quadrant.

In principle, and in contrast to Quadrant 1 and 2 type outcomes, the emphasis for development on the right hand side of the matrix would be less a result of learning from the technical aspects of the task *per se* and focusing on technical issues. Instead, it would be in terms of the process activity that the participants experienced doing the task and their impact and effectiveness in relation to others. Thus, developers would urge participants to focus on and encourage learning by being asked to reflect and receive feedback from others, on issues concerned with how they operated as managers rather than how competent they were as technicians. Moreover, participants would be encouraged to focus more on the "what, how and why" of their own behavior in managing themselves and others. This is not to exclude general principles; but the mental frame should be more towards, "how I as a participant acted or didn't act in the managerial process just experienced," rather than emphasizing, for instance,

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the theory of group behavior. While we would not use the following terms in reviewing, it might help to think around three areas of process activity when conducting reviews aimed at Quadrant 3 and 4 type outcomes. These are structures, interaction and feelings.

Structural process—this is concerned with:

- How groups are formed,
- Who becomes leader,
- How time is allocated,
- How materials are allocated, and
- Who becomes followers.

Interactive process—concerned with how individuals interact, for example:

- What impact did someone in a leadership role have on other individuals,
- In what situations was the leader more or less effective,
- What impact did follower behavior have on the leader,
- What did an individual do to influence/motivate someone else,
- What prevented individuals from intervening,
- What behaviors facilitated participation, and
- Which individuals and what behaviors helped the group achieve its task.

Feelings process—concerned with:

- How individuals felt about their interacting with others,
- How did they feel about their own performance/ interventions,
- What feelings helped them in relating to others, and
- What feelings hindered them, or hindered others on the program.

The overall intention of Quadrants 3 and 4 type reviewing is to encourage individuals to reflect and observe along the lines of the second stage of the Kolb learning cycle. First, however, individuals should be encouraged to identify and make manifest the kinds of issues noted above. The categories are less important than the principle of getting individuals first of all to look at what they did and what they felt. We believe that the next stage should be concerned with the individual trying to understand why they operated or felt the way they did. If the individual can understand why a particular behavior upsets someone else, or why particular feelings are triggered in certain situations, then he or she has a better chance of changing that behavior or reviewing situations of emotional difficulty. From there individuals might then reflect or receive feedback on whether the behavior and/or feelings that have been identified are found in other situations including work. The next stage would be to look at how change might be facilitated or at alternative behavior, and then perhaps to practice this in the outdoors, along the lines of Kolb's fourth stage.

Conclusion

This article is not a prescription but a suggestion. The individual's learning needs clearly cannot be ignored and the approach outlined above cannot be divorced from those in practice. But we have divorced them here because we believe that while individual learning needs are obviously important, so too are the programs provided. There is a case for developers reviewing very thoroughly what they are providing. While we acknowledge that ultimately the learning is the individual's responsibility, nevertheless, the vehicle for this learning is very much the executive developer's, and unless programs and objectives are carefully considered, it may be that participants do not derive full advantage from this learning activity despite its power. This is particularly noticeable if one examines the very similar claims Chapman and Lumsden on one hand, and Bank on the other, make for outdoor development programs, but the very *different* task and process models they and their colleagues have used to achieve those aims. Neither model is any worse or better than the other, if they are meant to achieve different objectives via differing task and process methods. But our argument is there are a range of outcomes on the right hand side of the matrix which cannot be achieved with left hand side processes and tasks. Although the relationship between these aspects is not straightforward we believe the typology presented at least gives a framework for understanding their interplay.

For some, our typology may raise an accusation that programs cannot and should not be "boxed" in the way we have done. Our intention, however, is not to circumscribe anything, but to encourage thought and a greater degree of clarity around program design. The distinctions between Quadrants 3 and 4 may be blurred and controversial, but for us the distinction between these two is less critical than the distinction between Quadrants 1 and 2, and Quadrants 3 and 4. For many in OD, facilitating 3 and 4 type outcomes may not be an issue. But there may be others who have fallen into the trap of pursuing type 1 and 2 activities in practice while not fully thinking through whether their developmental labels fully describe their courses. The area is growing. Whether it sustains that growth and credibility with clients will depend on the extent to which course coordinators confront and clarify the assumptions underlying its use.

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GUIDELINES FOR SELECTING AN OUTDOOR TRAINING PROGRAM

Source: "Achieving Your Aims in the Outdoors," by Stephen Goodwill and Bill Krouwel, *Training Officer*, September 1992, pp. 220-221

Based on their 12 years of experience with outdoor training, the authors conclude that: (1) product quality varies greatly, (2) many financially successful outdoor trainers have had no experience in industry, and (3) there's nothing to guide buyers in selecting good outdoor training. With this last in mind, the authors offer 5 steps for selecting the right outdoor training:

1. Clarify the objectives of the training before purchase.
2. Ascertain that the exercises, reviews, and psychometrics of the program match your objectives. Suppliers should be able to demonstrate how their objectives meet your objectives, although often the only way to achieve appropriate content is to rewrite the exercises yourself. Companies that refuse, or are unable to modify their exercises to meet your needs should not be dealt with.
3. Prepare participants in advance as much as possible by: (a) thoroughly briefing them on the program (preferably with provider assistance), (b) explaining the objectives to the participants and obtaining their agreement about those objectives, (c) clarifying confidentiality, so that participants know beforehand what reports, if any will be made about their participation, (d) addressing and allaying fears, no matter how illogical they may seem, (e) encouraging questions from participants, and (f) checking that the supplier is doing its part to encourage participants, as well.
4. Ensure the quality of delivery by being certain: (a) that all course staff are aware of the objectives and understand the content, (b) that the supplier uses staff with a reasonable degree of non-outdoor work experience as well as the necessary outdoor and group process capabilities, (c) that the provider monitors course progress against objectives, and (d) that the provider is prepared and able to adjust the program to ensure that needs are being met.
5. Follow up to ensure that the skills taught through the outdoor program are fostered and nurtured in the workplace.

Most critical of all, the authors say, is the support and beginning-to-end participation of the trainer and managers who have authorized the outdoor experience. (AN168)

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BRINGING OUTDOOR TRAINING IN-HOUSE

Source: "Go Take a Flying Leap (For the Company)," by Robert Carey, *Successful Meetings*, June 1992, pp. 59-62

The author looks at the outdoor learning programs offered by the Pecos River Learning Center in New Mexico, and by Catalyst in Santa Cruz, CA. He also examines the need for corporate training centers to accommodate such programs. On-site adventure learning centers can cost from $10,000 to $100,000, the author reports—a price companies such as Saturn and Kodak are quite willing to pay in order to reap the long-term benefits that experiential learning can provide. The author explores the variety of physical obstacles encountered, the safety factor, and the importance of maintaining the voluntary basis of this type of program. A sidebar provides the addresses and phone numbers of the Catalyst and Pecos River Program Centers, and a couple of independent centers. (AN169)

E. MORE TRAINING TECHNIQUES

MAKING SELF-TRAINING SYSTEMS WORK: SIX STRATEGIES FOR SUCCESSFUL IMPLEMENTATION

by Marsha Willard

The vice president of sales in a large textbook publishing company identified a performance problem with her sales staff. Most of the sales staff (78 percent) did not know how to correctly complete the weekly sales report forms which the company used to track sales. This was a critical problem since accurate reporting was vital to the management of the department.

Because the sales staff was spread across the country, bringing them together for a training class was impractical. The VP decided this was an appropriate opportunity to use self-training materials, and asked the training department to develop a program to correct the skill deficiency. The training department responded within two weeks by developing and sending to each sales person an elegantly designed, 24-page self-instructional booklet explaining the correct procedures for completing the forms. Eight weeks have now gone by and the VP sees no significant change in the problem. The training department maintains confidence in the effectiveness of their materials, and since they are sure that the booklets were disseminated, can offer no explanation for the program's lack of results.

While good design is necessary to the success of any training program, it is not sufficient. Many fine training programs have failed because they were not implemented properly. Since self-training systems lack the element of teacher control enjoyed by more traditional training methods, a thoroughly planned implementation is especially critical to self-instruction. Self-training systems are by definition dependent primarily upon the learner for final implementation.

This does not mean, however, that training administrators and designers are powerless to determine how self-training systems are implemented. This article discusses several strategies and techniques that increase the likelihood that these systems will be implemented properly and achieve their intended outcomes. The sidebar summarizes these key actions and strategies.

Self-Training Systems Defined

Self-training is experiencing a renaissance in the training world. Businesses, especially large ones, are attracted to this low cost, effective training method. Because self-training is an "instructorless" approach to training, it is available to learners at any time and in any place. In self-training, learners interact independently, at their own pace, with instructional materials or media. Programmed instruction and computer-based training are two examples of self-training systems. The design of self-training materials is a well-researched, specialized field of instructional design. Thirty years worth of literature exists on the design and evaluation of self-training programs, but almost nothing on its implementation.

The Six Strategies for Implementing Self-Training Systems

While the six strategies discussed here have relevance to all training endeavors, they are especially critical to self-training systems. The strategies are:

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1. Market the program,
2. Budget for the life of the program,
3. Prepare the program administrator,
4. Prepare the training audience,
5. Monitor the program's progress, and
6. Enhance the transfer of training to the job.

Let's consider each of these strategies and apply them to our textbook case study.

Market the Program

Getting the support of all invested parties is always an important strategy for ensuring the success of a training program. Because self-training systems don't have the visibility of traditional training programs, the proper support is especially important. Since learners tend to work alone and often off-site, self-training programs frequently go unnoticed and subsequently lose the attention of their supporters.

As with all training interventions, it's best to begin marketing well before the design of the program begins. Anyone who has a vested interest in the program should be consulted early in the development process to ensure the necessary support, enthusiasm, and commitment.

The quick response of the training department in our example is probably a good indication that no one outside that department was involved in developing the booklet. Perhaps they thought that having the support of a vice president was sufficient power to sell the program, but they might have considered input from the audience to identify more clearly what was causing the confusion with the forms and to secure some commitment to the program. In addition the training department should have made some effort to convince the audience of the importance of the program to their jobs and the relationship of the training objectives to their commissions.

Budget For the Life of the Program

One of the most attractive features of self-training systems is their low implementation cost. No instructor, no classroom, no travel, and less work missed for learners add up to significant savings. By far the greater portion of the expense of self-training is in the development, with a disproportionately smaller percent age of the total cost going to implementation. Because they typically don't cost much to implement, and because they tend to have long shelf-lives, the maintenance expenses of self-training systems are often overlooked or underestimated. It is not uncommon for programs to die premature deaths because the costs of supporting them were not adequately anticipated.

While budgeting issues may not have been the downfall of our sales program, the case implies that the training department may not have given full attention to this issue. The story indicates that they produced only enough copies of the document for the existing sales force. What about new hires? Should the department always keep copies on hand? How does the cost of maintaining an inventory of materials compare to reproducing small numbers on an as needed basis? The training department also should consider and budget for review and revision cycles to ensure the continued relevance of the materials.

Prepare the Program Administrator

Since their roles are so important to the success of self-training systems, program administrators must be thoroughly prepared and must be provided the necessary support to adequately sustain these types of programs. The self-training system in our case apparently didn't have an administrator. Though the training department took responsibility for distributing the booklets, there was no one to assure that they were received and used. An administrator should be very familiar with the program. (It is not uncommon for the designers to administer a program). In addition, administrators should be provided very detailed lists of all the tasks involved as well as an estimate of the time and resources required for each task. The administrator should be familiar with the milestones in the program, how participant performance will be assessed, and what data should be collected and how they should be analyzed.

Though self-training implies that learners work on their own, in reality we find that self-training is much more effective when it includes interaction with other people. The tasks required of the administrator also include such activities as writing an introductory note to the program explaining its benefits and importance, congratulating participants upon completion, and prompting those who have not completed on schedule. The program administrator should also ensure that the participants' supervisors are involved and understand their role in motivating participants and reinforcing their new skills on the job.

Prepare the Audience

Learners love self-training too because they can learn at their own pace and in whatever sequence makes sense to them. They have the freedom to skip what they already know, and dwell on what they really need or find interesting. This issue of learner control, however, also poses the biggest threat to the success of self-training. Where no instructor is present to explain, motivate, or assist, the learner may misunderstand, misuse, or ignore part or all of the program. With self-training the learner must be thoroughly prepared and supported.

Imagine members of our textbook sales teams receiving copies of this beautiful training booklet in the mail. Probably a good many of them looked at the booklet. Perhaps some even studied it. Since there were no apparent consequences for ignoring the booklet, many probably passed over it completely. We can assume that the training department included clear instructions on

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how to use the booklet, but probably nothing to explain why the booklet was important to the sales reps or where they could go for more information or assistance.

If the training department had done its homework, they might have been able to cue the learners to the parts of the booklet most relevant to their individual needs, allowing them to "test passed" unneeded parts of the instruction. Learners also need to know what they are expected to do after they finish. Do they report to someone? Is there a test to pass? What happens if they fail to apply the new information?

Monitor the Progress

An implementation plan also needs to include systems or mechanisms for monitoring the progress of the program. These systems serve two important functions. First, they facilitate the job of the administrator who will want to track participation and completion of the program. Second, they provide critical evaluation data. Unless you can document the events and outcomes of implementation, you cannot establish any meaningful relationship between your program and changes in job performance.

If the training department in our case study had provided a monitoring system, they might have had some indication why the program did not succeed. While they were sure that the booklets were received, they had nothing in place to track whether the booklets were read, or whether the sales teams learned anything. Their self-training could have benefitted from a system which allowed them to record completion and achievement data, identify laggards or non-completors, and schedule opportunities for feedback on performance. The system might also have included a means to measure the results of the program on the original problem and calculate any significant change in the number of errors on the sales report forms.

Enhance Transfer of Training

In far too many training programs all training efforts cease upon completion of instruction. In the case of self-training, efforts often end once the program has been designed. The final test of any training, however, is the impact it makes on the original performance problem. Whether or not the trainees achieved the learning objectives is of little consequence if they do not apply what they have learned to the job.

The training department in our textbook company evidently doesn't feel responsible for the failure of the program. They seem to think it was enough to have designed such a lovely booklet. Lovely as it may have been, there are several techniques they might have employed that would have increased the likelihood that the skills presented in the booklet were transferred to the job.

They might, for example, have incorporated some job aids into the booklet to function as on-the-job cues or as activities to do on the job. Since supervisors are key to any training, our training department should have familiarized the supervisors with the program and its intended outcomes, and briefed them on how to coach and reinforce their employees to encourage the new skills.

Lastly the training department should have examined the environment in which the training was implemented and removed any roadblocks to performance. For example, as long as sales reps were still promptly getting their commissions, there was little incentive to change the way they completed the forms.

Conclusion

Self-training systems have proven themselves to be an efficient, effective means for achieving instructional objectives, and it is likely that the self-training option chosen by our VP of sales in the textbook company was a good one. Good ideas, however, are only as good as their implementation. Perhaps more than most other good ideas, self-training systems need careful planning to fulfill their potential. While consideration of the six strategies discussed here may not ensure success in every case, it will certainly increase the probability of success as well as provide the data necessary to explain the outcomes.

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Recommended

STRATEGIES FOR IMPLEMENTING SELF-TRAINING

MARKET THE PROGRAM

- **Determine whose support is necessary to the success of the program:**
  - The originator of the project,
  - The person who will pay for the project,
  - The approval authority,
  - The administrator of the project, and
  - The intended audience.
- **Devise a plan or method for securing and documenting the support of these people:**
  - Solicit their input in the content, design, and review of the program,
  - Have them help advertise or sell the program to others,
  - Ask for written input or feedback,
  - Require sign-offs on drafts of documents or progress reports,
  - Keep a log of attendance at meetings or notes of individual conversations, and
  - Enlist their support in enforcing consequences and implementing follow-up activities.
- **Maintain the support of these key people for the life of the program:**
  - Distribute regular reports on the progress or success of the program, and
  - Involve key people in program revisions or updates.
- **Prepare a marketing plan to sell the program to the target audience:**
  - Prepare a list of the program's benefits and/or expected outcomes,
  - Relate the benefits to the needs and expectations of the audience,
  - Describe the rationale behind the decision to use self-instruction,
  - List the benefits of self-instruction to the learner, and
  - Create a plan for disseminating the above information.

BUDGET FOR THE LIFE OF THE PROGRAM

- **Identify and annualize the direct program costs:**
  - Calculate the cost per participant of consumables used in the program,
  - Determine the cost of equipment used in the program (purchase, rental, maintenance),
  - Establish a cost for trainees' time, and
  - Determine the cost of administrator's time.
- **Identify and annualize the incidental program costs:**
  - Determine the useful lifetime of the materials,
  - Calculate the cost of marketing the program to the audience,
  - Compare costs of keeping an inventory of materials to reproduce as needed,
  - Anticipate the cost of revisions or updates, and
  - Establish the cost of scrapping outdated materials.

PREPARE THE ADMINISTRATOR

- **Familiarize the administrator of the program with self-training systems:**
  - Define the basic format of self-instruction,
  - List the strengths of self-training as an instructional medium,
  - Describe the weaknesses of self-training, and
  - Demonstrate the importance of the administrator's role as coach and manager.
- **Train the administrator on the particulars of the program in question:**
  - List the objectives and describe the expected outcomes,
  - Describe the procedures for completing the program,
  - Provide a schedule of events and milestones, and
  - Explain the process by which participant performance will be assessed.
- **Provide the administrator with a detailed implementation plan:**
  - Describe the procedures for implementing the program,
  - Explain the policies which govern the implementation,
  - Delineate the specific tasks involved in the program's administration,
  - Estimate the amount of time required for each of these tasks,
  - Describe the data which are to be collected and explain the system for collecting them,
  - Define when and how to interact with learners,
  - Suggest methods for motivating or reinforcing learners, and
  - Recommend strategies for involving participants' supervisors.
- **Provide the administrator with adequate support resources:**
  - Establish a system for disseminating, retrieving, and storing program materials,
  - Bestow the administrator with adequate authority to accomplish program tasks,
  - Authorize sufficient budget to maintain the program, and
  - Anticipate pitfalls and problems and prepare the administrator to resolve them.

PREPARE THE AUDIENCE

- **Motivate the learner to complete the program:**
  - List the benefits of the program to the learner,

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Describe the expected outcomes of the program,

Estimate the amount of time required to complete the program, and

Explain the consequences of not completing the program or applying the content.

- **Describe the program prerequisites:**

  Describe the skill level necessary before beginning the program, and

  Describe any equipment or materials trainees are expected to provide for the program.

- **Provide the learner explicit instructions on how to complete the program:**

  Explain where the learner is to begin and how to proceed,

  Explain exactly what the trainee is expected to do throughout the entire program,

  Explain how the learner is to interact with the materials,

  Suggest techniques for optimum use,

  Explain how the learner is expected to interact with the administrator,

  Explain where and how the trainee will receive feedback on his performance,

  Estimate the amount of time required of each portion of the program,

  Explain exactly what the trainee should do upon completion of the program, and

  Describe what the trainee can expect to happen once he is finished.

- **Describe the resources available to the learner during the program:**

  List the resources available and how they may be obtained,

  Explain where the learner may go for individual help or information,

  Describe what the learner can expect from the program administrator, and

  List the other program participants and when and how they may be contacted.

MONITOR THE PROGRESS

- **Create a system for recording participation in the program:**

  Enroll participants as they begin,

  Record the expected completion date for each participant,

  Devise automatic flags to identify participants who drop out or fall behind,

  Track program completion, and

  Flag opportunities for participant follow-up.

- **Create a system for collecting and analyzing achievement data:**

  Determine what tasks/assignments participants must submit,

  Establish a schedule and method for submitting assignments,

  Create a database for recording and tracking individual progress,

  Provide the criteria for evaluating assignments, and

  Determine a schedule and means for providing performance feedback.

- **Create a system for tracking equipment and materials use:**

  Inventory supplies of materials,

  Check condition of equipment, and

  Assess amount and conditions of storage space.

- **Create a system for tracking and anticipating costs and income:**

  Record expenditures as they are incurred,

  Compare actual expenses to budget, and

  Monitor changes in prices that may occur over the life of the program.

ENHANCE TRANSFER OF TRAINING

- **Design instructional materials to encourage transfer:**

  Incorporate job aids into the design of the self-training system,

  Include activities which must be completed on the job, and

  Include follow-up activities to be conducted after completion of the program.

- **Involve supervisors and co-workers in the training effort:**

  Solicit input on program content and design from supervisors,

  Familiarize supervisors with the benefits and expected outcomes of the program,

  Describe how supervisors can reinforce objective behaviors on the job,

  Familiarize supervisors with the program requirements,

  Familiarize co-workers with outcomes and benefits of the program,

  Enlist assistance of supervisors in collecting evaluation data, and

  Report to supervisors on progress of the program and participants.

- **Modify organizational systems to support newly learned behaviors:**

  Ensure the presence of any necessary equipment or materials,

  Eliminate policies or procedures which discourage performance of training behaviors,

  Establish rewards or incentives which encourage application of the behavior, and

  Ensure that training outcomes align with organization values and culture.

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TDY 93/94 CASE STUDY: DISTANCE LEARNING AT BRITISH TELECOM

Source: "The Development of Distance Learning at BT," by Margaret Bell, *Training Officer*, October 1992, pp. 244-245

In many ways, this author says, British Telecom is exactly the type of company that can benefit from distance learning, because: (1) it is a very large organization, (2) it has to present a consistent image to customers, while developing a cohesive management philosophy and style in a large workforce, and (3) it is committed to responding to rapid changes in the business climate. Distance learning was not, however, readily accepted in the company, and this article explains the lessons the training department learned about distance learning while promoting it to the company:

- It takes a lot longer to implement and integrate than one might think.
- The people who are most difficult to persuade are the trainers themselves.
- The success of distance learning depends on how well it is implemented, particularly the support and environment at the point of delivery.
- The system should be designed to require no prior knowledge of computers from the user.
- People like using distance learning when it is well designed and well supported.
- It is essential to develop design skills in-house.
- It is very cost effective.
- It can combine fast, high volume training with efficiency.

Distance learning, the author reports, has saved British Telecom £1.4 million over the previous mode of training, and trainers have learned: (1) that users like it, (2) that confidence in distance learning improved dramatically during the time spent on the course, (3) that it met students' expectations in terms of learning goals and objectives, and (4) that there was identifiable improvement in behavior. (AN170)

TDY 93/94 IN BRIEF

ACCELERATED LEARNING

Source: "Basics of Accelerated Learning," by Deborah M. Fairbanks, *Info-Line* (American Society for Training and Development), September 1992, 14 pages

The purpose of accelerated learning (AL), explains the author, is to produce a consistently positive learning experience that allows learners to acquire information and skills more efficiently and to retrieve, recall, or respond with confidence, quickness, and accuracy. First, the author looks at the theoretical base behind AL approaches: positive suggestion, triune brain (brain stem, limbic system, and cortex), right-brain/left-brain, and 4 brain quadrants. The basic purpose of AL, she says, is "to involve both the right and left hemispheres and the cortex and limbic systems of the brain in learning. By involving the different functions, learning is made more natural." Some of the principles are:

- **Affective state.** The brain chemistry of a positive state of the nervous system differs from that of a fearful and angry state.
- **Beliefs toward learning.** People's beliefs that learning is difficult can slow their learning.
- **Information networks.** New material should be connected to previously learned material.
- **Non-conscious learning.** As much as 80% of learning may be unconscious. AL techniques are designed to activate more of the mind.
- **Learning cycles.** Shorter segments are better processed and retained than are longer, continuous learning segments.
- **Multi-sensory input.** Since learners have different learning styles, information should be

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presented through the visual and auditory, as well as through the kinesthetic senses.
- **Learning readiness state.** A calm, relaxed state—both physically and mentally—is the optimum state for peak learning.

The next part of this monograph presents the training methodology in 4 stages: (1) preparation, (2) presentation, (3) practice, and (4) review and application. Various AL techniques are suggested for each of these phases. The author closes by looking at the future of AL. Included are: (a) a one-page AL course outline for teaching the principles of AL and (b) a job aid in the form of a program checklist. The article also features sidebars on the benefits of AL, on music as a learning accelerator, and on mind maps. (AN171)

EMPLOYEE COACHING

Source: "Employee Coaching: The Way to Gain Commitment, Not Just Compliance," by Lois P. Frankel and Karen L. Otazo, *Employment Relations Today*, Autumn 1992, pp. 311-320

Compliant employees may get the job done, these authors say, but committed ones do it better. In this article, the authors begin by examining the negative aspects of the 2 chief techniques used by managers today to improve poor performance: (1) progressive discipline and (2) performance appraisal. They then go on to offer coaching as a positive and viable companion to those techniques. The authors see coaching as a prelude to progressive discipline which, if done correctly, can often eliminate the need for the discipline. It also provides ongoing feedback to the employee, thereby eliminating unpleasant surprises during performance appraisal. Good coaches, the authors say: (1) take time to listen to the employee, (2) see the employee as a person not just as a worker, (3) care about the employee personally and help with personal problems, (4) set a good example, (5) stretch the employee, (6) encourage, (7) never pull rank, (8) don't keep the employee in the dark, and (9) praise the employee for a job well done—and let him or her know honestly when they don't do well. Coaching is seen as a process, not a one-time deal, and the authors offer suggestions for those interested in becoming effective coaches:

- Think about behaviors, not characteristics.
- Include appropriate alternative behaviors in all coaching sessions.
- Factor yourself into the problem—search for things you could have done differently when problems arise.
- Coach on a regular, not yearly, basis.
- Use positive reinforcement to shape behavior.
- Recognize that "you are not others and others are not you"— don't expect or demand that others do things in the same way that you would.
- Let the employee make incremental changes.

A "quiz" is also provided, so that the reader can gauge his or her own current coaching skills. (AN172)

DISTANCE LEARNING

Source: "Distance Learning—Gimmick or Opportunity?" by John Dunn, *Training & Management Development Methods*, Vol. 6, No. 4 (1992), pp. 7.35-7.44

Distance learning, this author says, is undergoing a boom in popularity, despite the fact that it is often confused with poor quality and uninspiring correspondence courses. In this article, he first defines distance learning and then attempts to explain how an organization can go about developing a distance learning course. Several aspects of course design are discussed:

- Selecting the course development team, including subject-matter experts, and being sure to address the questions of whether the material is educationally and technically sound; and
- Planning the course structure, listing topics in a logical sequence and breaking information up into manageable chunks or sections (including text, activities, and self-assessment questions).

The author next lists the advantages of distance learning: (1) the learner becomes involved in the process of the course rather than going through it passively, (2) students learn more easily when rules and relationships are explained, (3) the structure provides learners with constant feedback and encouragement, and (4) the appearance of the material is more interesting. He goes to some length to discuss the drawbacks of distance learning as well, and he cites a need for: (1) more closed questions for more accurate feedback, (2) a more friendly writing style, (3) the writing of activities and self-assessment questions as an integral part of the program, linking at least one of each to each learning objective in the course, (4) less fragmentation of subject matter, and (5) less rigid course outlines. The author also touches on the advantages and disadvantages of using distance course materials in live courses. (AN173)

NEURO-LINGUISTIC PROGRAMING

Source: "Tapping Your Own Excellence Using NLP," by Di Kamp, *Executive Development*, Vol. 5, No. 1 (1992), pp. 27-28

Neuro-linguistic programming (NLP) can be an effective tool in management development, contends the author. She begins by defining NLP as a framework which enables one to explore the nearly automatic physical and language patterns or "programs" which a person has developed to allow him or her to respond quickly. NLP techniques (1) make one conscious of one's patterns, (2) give one the tools to create alternative strategies to deal with situations, and (3) help one become conscious of the

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tterns which successful people use. The author sug-sts several ways to introduce NLP into management velopment: (1) training in basic NLP techniques, (2) orkshops on specific management development or per-nal effectiveness issues using the NLP approach, (3) lor-made workshops for the organization, and (4) nsultancy using the NLP approach. The author con-udes by listing some of NLP's distinctive features: (a) eclectic, embracing strategy, (b) a basis in the reality human experience, (c) an emphasis on how to achieve timum performance, (d) a basis of respect for oneself, a reliance on the resourcefulness of the individual, (f) eminder to people of what they already know, and (g) edom for people to explore their own real issues. The thor concludes enthusiastically: "I can *guarantee* that LP will make a positive difference in the work context thin days." (AN174)

D-IT-YOURSELF CONFERENCING

ource: "A Learning Network," by Sivasailam iagarajan, *et al., Performance & Instruction,* ptember 1992, pp. 41-44

In this article, the authors describe a conference in ich they were not only the organizers, but also the ticipants, presenters and attendees. They found this e of conference to be very beneficial, and they present ir organizational process as a guideline for others who y be interested in self-made conferencing. Two people instormed the participant selection process and then tributed questionnaires among the others to determine h one's: (1) areas of expertise, (2) topics of interest, (3) plans for exploiting the knowledge of the others. ut from all participants was used to prioritize the nda, and it included a variety of activities: (1) sugges-box, (2) interactive presentation, (3) flying models, application examples, (5) piloting, (6) dilemma dis-sion, and (7) "spontaneous combustion." Plans for ow-up through computer bulletin boards are currently erway. A sidebar presents one participant's agenda a conference on advanced training topics. (AN175)

THEATRICAL APPROACH TO ADA AINING

urce: "The Mad Hatters' Approach to ADA ining," by D. Kerry Laycock and Roberta binson, *Training & Development,* September 2, pp. 69-72

Trainers can play a significant role in helping manag-understand how to come to grips with the ADA ericans with Disabilities Act] and to change their udes about working with people who have disabili-" claim the authors. The Mad Hatters is a nonprofit nization that offers educational theater programs to people understand those who are disabled. When l as part of a training program, the Mad Hatters lead people to examine and possibly change their feelings and attitudes. Although ADA seminars abound, few address the attitudinal barriers to compliance and fewer still can boast of success as the Mad Hatters can. A typical presentation will begin with each participant choosing a hat from among hundreds to wear during the performance. The purpose of the hats is to allow people's usual roles to fall away. The Mad Hatters then present dramas concerning (1) the ADA, (2) public accommodations, (3) appropriate disability terminology and etiquette, and (4) supervision of a disabled person. During breaks the actors remain in character and talk with the participants with the aid of a facilitator. A structured workshop may follow the dramas so that participants can practice interviewing skills and other aspects of management. According to the authors, the Mad Hatters have a unique ability to touch people in a personal way so that they can confront their thoughts and feelings. The central message is that having disabled workers is good business. (AN176)

DOUBTS ABOUT THE MBTI

Source: "Second Thoughts About the MBTI," by Ron Zemke, *TRAINING Magazine,* April 1992, pp. 43-47

As the Myers-Briggs Type Indicator (MBTI) has grown in popularity, it has attracted increasing critical scrutiny, notes the author. After a description of the MBTI's basic structure and the 16 different personality types, he summarizes the conclusions of a panel of 14 psychologists who reviewed the instrument in 1991 for the National Research Council. They observed that: (a) the types are "memorable," (b) trainees see their MBTI results as "true" and valuable, (c) the instrument has a high self-perceived impact, and (d) the MBTI is often the highlight of a training program. However, they pointed to 3 areas of concern:

- **Reliability.** A review of 11 test-retest outcomes showed that type stability ranged from 24% to 61%. The MBTI was found to be one of the most easy-to-manipulate of psychological instruments.
- **Validity.** The introversion/extroversion scale shows high validity, but the sensing/intuition and thinking/feeling scales show generally weak validity.
- **Effectiveness.** One researcher concluded that research on applications in the education, training and development, and team building areas is incomplete, inconsistent, and flawed. A more positive assessment is currently in press.

"Perhaps the best advice," the author concludes, "is to keep your eyes—and your options—open, and see how the current spate of claims, counter-claims, criticism, and new research initiatives play out." (AN177)

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Section 7
Training Programs

To this point, we have covered the "how" of training—design, development, delivery, and administration. Now we turn to the "what" of training as we review the best of 1992's literature on HRD programming.

As in previous editions of the *Training & Development Yearbook*, we begin with skills training. This subsection first addresses job skills and, considering the lingering recession, it is not surprising that the lead article deals with retraining. After a particularly large group of case studies and other abstracts on other forms of technical skills training, we turn to the subject of "training for teams." In past years, we titled this section "Interpersonal Skills Training," but during 1992 the literature focused on teams. The articles selected for this subsection are particularly practical: one is built around a checklist for designing team training programs; the other features a timeline for setting up and training self-directed teams. Wrapping up the subsection on skills training are an article on workplace literacy programs and a companion case study of Magnavox' efforts in this area.

Management development is always an organizational priority, but each year one special topic is emphasized in the literature. This past year, it was clearly international management development. We present two of the year's best articles in this area: one on training for expatriates and another that examines the larger perspective of developing managers with "global mindsets." Another highlight of this subsection is the lead article on MD as an element of corporate strategy.

From the abundance of literature, it seems that 1992 was the year of career development. Our coverage begins with an article on "multifunctional management development," *i.e.* job rotation and lateral transfer. That is followed by an unusual study that presents national statistics on the rates of internal promotion. Then there is a practical piece on how to ensure that managers will give proper attention to developing their subordinates.

Other highlights of the career development section are articles on orientation for new managerial-level employees, on mentoring (including a tool for evaluating individual mentoring relationships), on giving women and minority managers more challenging jobs, on the personal and organizational benefits of "downshifting" one's career, and on legal requirements and organizational practices in the area of tuition reimbursement.

As last year, the "customer-oriented training" subsection emphasizes Total Quality Management. Among the many articles on training and quality that appeared in 1992, we selected one that outlines a detailed plan for quality-related training and another that describes Westinghouse's Training Total Quality Trainers process.

The next subsection is new to this edition of TDY. After covering ethics training, diversity training, AIDS education and other such topics for years, we realized that "training for social responsibility" has achieved a level that those of us who came of age in the 60s and 70s would never have imagined. After an unusually practical article on ethics training, this subsection proceeds to the subject of workforce diversity with one article that reviews the programs of several organizations and another that is full of advice for avoiding backlash to diversity training.

Sexual harassment was certainly a major national issue in 1992, and there were numerous articles on training to increase the sensitivity of it perpetrators and strengthen the defenses of its victims. Of these, we selected two that put the subject in perspective, that offer guidelines on how to structure the training, and that summarize organizational practices.

The next article in the "Training for Social Responsibility" section addresses the little-discussed subject of training for environmental responsibility, and the subsection concludes with an update on AIDS education that summarizes its benefits and gives advice on how to ensure the success of this training.

The last subsection emphasizes safety training. The first article here presents a very thorough discussion of employer liability for training, and the second provides guidelines for conducting an audit to ensure that training complies with government regulations.

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A. SKILLS TRAINING

A-1. TECHNICAL SKILLS TRAINING

RETRAINING PUTS WORKERS BACK ON TRACK

by Stephenie Overman

These days businesses are learning that it pays to recycle, but not many are making the connection to their workforces. Making the investment to retrain workers pays off because it helps retain a loyal, stable workforce and it builds on the skills employees already have.

But retraining has its pitfalls. Companies often feel they can't afford to retrain or that if they make the effort, other companies will steal away their more proficient workers. They worry that workers may lack the inclination or aptitude to learn new skills.

Ed Schroer, vice president of professional services for the American Society for Training and Development, believes that enlightened companies see the need for retraining.

But, he said, "when you move away from the leaders, the large companies, or the ones with the strong unions, there isn't a lot of training done, period."

Part of the problem, he said, is that "there is a philosophy in the United States that labor is a cost of doing business. When it wears out, replace it and get people who know the latest. Companies tend to say, 'We don't have to retrain, we can hire new good ones.' "

Another part of the problem, he said, is businesses realize that workers who are retrained in the latest skills are more marketable, so the businesses fear that those employees will move on to their competitors.

And, Schroer noted, small companies, in particular, find retraining difficult and expensive. But more and more, competitive times are compelling companies to make the retraining investment.

"If they decide to be competitive, to focus on total quality management, they soon learn that total quality means that people have to be flexible and skilled. So they have to make more investment in the workforce," said Schroer.

Companies also are realizing that they can't just replace their workers with recent high school graduates who have newer skills, because even those skills will soon be obsolete.

"Change today is so rapid that companies want to build a workforce that can change several times, not just once," Schroer said.

Communication Links

In some industries faced with ongoing change, companies and unions have joined together to keep the workforce updated.

In 1981, the Communications Workers of America (CWA) created the Committee on the Future to take a long-range look at the evolving needs of its members.

The committee noted that "in the past, a worker might expect that one set of skills would guarantee a job for 10 years, 20 years or even a lifetime. But the flood of technological advances now sweeping the telecommunications industry, and beginning to be felt in virtually every industry, means that workers are going to have to train and retrain all of their lives...."

These rapid changes in the communications industry led CWA to forge links with AT&T and with another union, the International Brotherhood of Electrical Workers (IBEW), to find ways to retrain employees when job demands outstrip worker skills.

One answer is the Alliance for Employee Growth and Development Inc., a nonprofit, cooperative venture of AT&T, CWA and IBEW that was created at the bargaining table in 1986. It is based in Somerset, NJ.

The Alliance is dedicated "to the needs of dislocated workers, and we pledge to continue to set the pace for preparing the workforce of the future, one person at a time."

The organization is noteworthy for its "cooperation in a fairly adversarial environment," said Ken Ross, Alliance co-executive director. Traditionally, there is often animosity not only between companies and unions but also rivalries among unions themselves.

However, at an Alliance meeting, Ross said, the participants "are so focused on getting the work done that you'd never be able to pick out their allegiance."

He believes that's because the program "belongs to all of them"; the company, union and workers all stand to benefit from its success.

The Alliance's goal is to work with 315 local committees around the country to retrain workers to "take charge of the future."

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One place where the Alliance works to meet its goal is in Merrimack Valley, N.Y.

"In my time here, we've gone from the stone age to the space age," said George Melanson, a CWA local vice president and employee with Merrimack Valley Works, an AT&T manufacturing company.

The Merrimack Valley committee was first formed in 1987 in response to a major layoff. With the help of the Alliance, federal and state funds, the local committee provided career planning, job development, occupational skills training and placement for workers affected by the layoffs.

By the winter of 1989, the priority became to prepare workers to keep up with the increasingly sophisticated demands of technology.

Established Programs

Another Alliance program is Technicians for Tomorrow in Chicago, designed to provide employees with skills to qualify them for future jobs within AT&T. The program is aimed at both active and displaced workers.

Another company/union link within the communications industry, this time centered in the western United States, is the joint U.S. West Communication/CWA Pathways Program.

William Frazee, co-director of Training Partnership Inc., which administers the program, said the Pathways Program is dedicated to retraining workers for "a new skill, a new occupation, a new career path."

Its purpose is to "create a flexible and skilled workforce so that employees, the company and the union are prepared to fully participate in a changing and diverse marketplace."

Like the Alliance, the Pathways Program was born at the bargaining table. It benefits the 37,000 union members in a 14-state region.

The program is important for the workers, according to Frazee, because the telecommunications industry is technical and complicated and constantly changing.

And, "it's important for the company. They need to have highly skilled workers available. Sometimes they don't," Frazee said.

Printers' Quality

Over the years, the printing industry has moved in stages from the old Linotype machines that produced each line of type in a solid metal slug to the latest in computer technology.

Cheryl Bingham, corporate training manager for Hart Graphics Inc. in Austin, Texas, has seen the changes and knows how employers and employees must work to adapt to them.

Today, "the big issue is quality," Bingham said, which means that press operators need to understand statistical process control and must be able to make their own decisions and solve their own problems.

"They need to know measurements and charts and fishbone diagrams. They have to know how to calibrate machines, they have to understand reports...."

Many of the changes in the printing industry are occurring before the presses actually run, and Hart Graphics is just getting into the electronic pre-press era.

Copy is no longer set in old-fashioned lines of metal type; today negatives are made by technicians called strippers and "what the strippers do eventually will be gone," according to Bingham.

When that happens, "the strippers will learn," the newer methods, she said. "When something disappears, something appears."

Some of the employees are computer illiterate, so Hart Graphics is designing programs to teach them to work with the newest technology.

TDY 93/94 CASE STUDY: RETRAINING OLDER AUTO WORKERS AT KENWORTH OF CANADA

Source: "Kenworth's Gray Revolution," by John Southerst, *Canadian Business*, September 1992, pp. 74-79

While many companies are reluctant to retrain their older blue-collar workers, this author relates how one heavy truck plant in Canada discovered that upgrading those employees' skills can pay big dividends. Kenworth of Canada began an intensive retraining program last year for 550 plant workers, most between the ages of 43 and 48, and this program has already increased plant productivity by 19% and reduced defects by 80%. This article traces the development of the program, which was initiated in response to a need for broader skills among the workers left after a company layoff. Trainers from the regional school board helped in program design and course content, including basic language skills training. A truck simulator allows trainees an opportunity for hands-on practice of their new skills, while field trips enable them to meet customers and get a first-hand look at customer needs. Federal and local subsidies have helped to defray costs, but the author adds that the real key to success has been the total commitment of top management to the program. (AN178)

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Most workers are eager to learn, but some are reluctant, "scared at first," Bingham said. Ultimately, "they want that job until they retire, so they go along with the program."

Retrain to Survive

Why retrain people—why not hire new people with the skills the business needs?

"We can't find them," Bingham said. "The market does not have people who are trained. To survive, we've got to have training. It's the way to do business."

Retraining to survive is also the description used by Ed Kelley, manager of organizational development at Quad/Graphics in Pewaukee, Wis.

Quad/Graphics is an employee-owned company, with about 6,000 employees, that believes in "the holistic development of the individual," said Kelley.

"To develop only the craft skills is self-defeating," according to Kelley. "Craft skills don't get you to the individual you need."

So when workers at Quad/Graphics are retrained, they learn what he calls human resource and processing skills as well as new technical skills.

Kelley marvels at companies that think they can get away with avoiding the continual retraining of their workforces.

"If they're not training, they're not going to survive," he said.

At Quad/Graphics, "We've been doing it so long, it's a way of life," according to Kelley. "People who join us know to expect continual learning. It's not for everyone. Some join us and say, 'I don't want to do this'—they find one of those other companies."

Auto's Motives

Assembly-line workers in the auto industry are finding that they need to upgrade the most basic skills to keep up with the demands for improved productivity and quality control.

Howard Erickson, a spokesman for the United Auto Workers/General Motors Human Resource Center in Auburn Hills, Mich., said that the retraining builds on the skills of workers.

"No one knows how to build cars better than our UAW employees. It would be foolish to start from scratch (hiring new workers)," Erickson said.

So General Motors Corp. and UAW have jointly invested $1.5 billion in workplace education, training and retraining since 1984.

The UAW/GM Human Resource Center is in the process of establishing skills centers at the 150 plants and warehouses where 300,000 UAW members work.

"GM mirrors every national trend. The skills centers are our answer," Erickson said, to the problem of an estimated 27 million functionally illiterate U.S. workers. "We've become the educator of last resort."

TDY 93/94 CASE STUDY: TRAINING IBM BLUE COLLAR WORKERS TO BE SECRETARIES

Source: "Instant Secretaries: Just Add Training," by Carol Hennebach, *Training & Development*, November 1992, pp. 63-65

Is it possible to train blue-collar workers to become secretaries in only a matter of weeks? This article describes a program which IBM pioneered and which proved that it can indeed be done in 6 weeks' time. The program featured 68 hours of customized training, presented in tandem with the Business and Technology Center of Austin (TX) Community College. It was presented in response to a critical shortage of secretaries at IBM's Austin plant, a situation which was complicated by a company hiring freeze. The 6-week program is summarized here, and the author adds that 6 of the 10 pilot participants are now IBM secretaries. She also presents recommendations for companies which may wish to follow this "instant secretary" program:

- Design a curriculum to fit job-placement needs and trainees' individual needs.
- Customize training materials to reflect your organization's functions and procedures.
- Set competency levels and regularly test participants for mastery.
- Keep the program's time segments flexible.
- Take enough time to analyze trainee abilities and learning styles.
- Make sure that trainees are aware of the program's rigors.
- Provide a good deal of participant support, such as mentoring and individual tutoring.
- Allow enough training time, especially for academic topics.
- Structure on-the-job training to meet trainee's individual needs. (AN179)

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CASE STUDY: MAINTENANCE TRAINING AT WORTHINGTON INDUSTRIES

Source: "Putting Training in Place," by Gary P. Maul, *Technical & Skills Training*, January 1992, pp. 27-29

The multidisciplinary knowledge required by new technologies means that many current maintenance people need to upgrade their skills, a process that usually requires extensive training. This article explains how Worthington Industries fashioned a technical skills training program for its employees, focusing on their on-the-job needs and on the importance of maintaining quality service for internal customers. Surveys, interviews and one-on-one meetings were conducted to determine the specific areas of knowledge and training that the maintenance personnel felt could improve job performance. The author describes courses in basic knowledge, fluid power, and electricity. The article concludes with notes on course implementation and trainer and trainee selection. Education, particularly in safety and problem-solving skills also played a major role in the program. (AN180)

The reason companies accept this role, he said, is that: "In today's workplace, jobs are changing drastically. Years ago, we would have someone who ordered parts, another person to take the parts to the work station, another person to use them, another person would inspect the work, yet another person would deliver the parts to another place in the plant," he said.

Today, it is all combined—one employee must be able to order parts, maintain inventory, do the work, and inspect the finished product.

"We are expecting more of our work force," Erickson said.

As an example of the value of upgrading skills, he cited the transformation of an employee in an Anderson, Ind., plant that manufactures magnets for automobile starters.

"Up until a couple of years ago, he could not read or write. Today he runs a $500 million machine. He works with four computers," Erickson said.

The gains the employee has made at work carry over into his personal life, Erickson added. "Until he learned to read, he never left Anderson, he never went on vacations—he couldn't read signs."

Clorox, Too

The need to boost basic skills, to prepare for more complicated tasks became an issue about two years ago at a Clorox Co. household products plant in Chicago. Many of the plant's employees were not equipped to handle the demands of new technology that would allow Clorox to increase its production.

So Clorox signed up Imperial Corporate Training and Development in Chicago to work with the company's cadre of about 100 longtime employees.

Many employees "needed to be schooled to read instructions. They were not able to respond to the technology, so we were asked to come in," said Beth Fahey, program-planning consultant for Imperial.

Clorox and Imperial set up a 10-week, voluntary program that offered classes to employees at the plant before and after their shifts. Job specifications and technical manuals were incorporated into the program. The employees were offered 10 more weeks of follow-up sessions.

"It was a long-term commitment for Clorox. They wanted to keep their stable workforce. They had a commitment to these people, who were hardworking, loyal, close-knit.

"It made dollars and sense" as well, Fahey continued. "It would've been much more costly for them to recruit. They already had people who were willing to do it sitting in the plant."

Phil Benning, quality leadership coordinator at Clorox, agreed that retraining is beneficial to both the company and the employees.

"We have people with 15 to 20 years seniority," Benning said. "As technology moves forward, we won't have a place at the plant for them. We need to give them new skills to make them better employees. As the technology advances, they can get frustrated. But with the training, they can get more meaningful jobs. That requires raising their skill level."

Retraining means a more motivated employee, Benning added.

"They're more in control of what they do. Rather than hiding behind what they can't do, they take what they can do and they do it better. And they learn to do more."

And, retraining doesn't have to be prohibitively expensive. Benning estimates that the company spent less than $10,000 on the first three sessions offered.

He compared retraining to "that old oil filter commercial where the guy says 'you can pay me now, or you can pay me later.' Either way, you're going to pay."

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TDY 93/94 CASE STUDY: MAINTENANCE TRAINING AT BOEING

Source: "A Model Labor Management Approach to Upgrading Skills," by Daniel Marshall, *Technical & Skills Training*, November-December 1992, pp. 18-23

Boeing has traditionally been faced with the problem of maintaining a sufficient supply of the highly skilled, creative technicians required to service and maintain their machinery. This article relates how they have solved this dilemma through a joint effort with the International Association of Machinists (IAM). Established in 1989 in response to the union's Upgrading and Career Ladders Program (UCLP), the IAM/Boeing Quality Through Training Program (QTTP) sought to integrate worker-involved job analysis with systematic on-the-job training. Two highly skilled occupations: (1) Maintenance Electronic Technician Numerical Control and (2) Electronics Maintenance Man are the focus of the initial program, which will graduate its first class in July 1993. In preparation for the program, QTTP formed a team of union members and supervisors to conduct an extensive job analysis for each occupation, which in turn was used to determine the program's curricula. Twenty-two technical classes comprise 546 paid-time hours of training, which is augmented by 128 required hours of nonpaid-time for basic courses in writing, interpersonal skills, etc. On-the-job training is also part of the program, accounting for 3,400 hours of training, 90% of which covers practical skills pertinent to all Boeing facilities, while 400 hours are site-specific. With over 800 applicants for the 23 trainee positions, the union and management again teamed up to ensure that the selection would be viewed as fair by all applicants. An initial evaluation of the program indicates that it has been successful in meeting its goals to date, a success that the QTTP attributes to: (1) the fact that it is a joint labor-management training program, (2) worker/supervisor involvement, and (3) recognition of the importance of on-the-job training. (AN181)

TDY 93/94 CASE STUDY: TECHNICAL TRAINING AT TOYOTA

Source: "Toyota's Camry, Toyota's Training," by John Allen and John Beakes, *Technical & Skills Training*, October 1992, pp. 41-45

Every 57 minutes, a new Toyota Camry rolls off the line in Georgetown, Kentucky—a car that ranks among the best automobiles in the world. This article describes the Toyota's systematic approach to planning, developing, implementing, evaluating and continuously improving its technical program, based on the company's understanding: (1) that a successful technical training program must recognize that technical training is part of a larger organization and that business goals and objectives drive training efforts, (2) that successful implementation of training involves the customer, and (3) that training activities need to be interwoven into the daily operations of the business. Four corporate values have guided the development of Toyota's training objectives: (1) that the basic unit of training is competency in both technical skills and team/interpersonal skills, (2) that all organizations develop in predictable stages (security, trust, participation and self-direction), (3) that training occurs in various organizational settings, both on and off the job, and (4) that the organization must be committed to training. The author also explores Toyota's current technical training targets:

- 200,000-person hours of classroom instruction of 4,000 team members annually,
- 68,000-person hours of technical training per year for 300 maintenance personnel,
- Over 21,000 on-the-job training tasks completed yearly, and
- 47,000-person hours of additional training-related activities, such as quality circles. (AN182)

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TDY 93/94 CASE STUDY: INTERACTIVE VIDEO FOR TECHNICAL TRAINING AT INLAND STEEL

Source: "Inland Steel Trains Technicians Through Self-Study in Classrooms," by James R. Hanlin, *Technical & Skills Training*, August-September 1992, pp. 24-29

Inland Steel Company's Indiana Harbor Works plant employs more than 13,000 people, and its training programs involve over 200 different courses. Technicians must work in numerous plant areas and several central shops, troubleshooting and repairing state-of-the-art equipment and systems. This article examines how Inland Steel and Training Solutions Inc. worked together to design, develop and implement an instrumentation training program, following guidelines established by the company's process automation department. Curricula needs were identified in 3 areas: (1) a core curriculum, encompassing 14 lecture/lab courses and approximately 389 instructional hours, (2) specialized process training for 10 separate mill areas (108 courses), and (3) specialized equipment training for 4 central shops, as well as the 10 mill areas (130 courses). The need to provide both self-study and classroom instruction for this massive program was satisfied through the use of interactive videodisc instruction (IVI) in each type of training, a techique the company has found to be both efficient and effective. Pretesting and final exams are presented on IVI, and the company has found that team spirit has been enhanced by technicians uniting to compete against the lesson. (AN183)

TDY 93/94 IN BRIEF

TACIT SKILLS

Source: "Knowing and Doing: Tacit Skill at Work," by Carole Myers, *Personnel Management*, February 1992, pp. 45-47

"Tacit skill can be distinguished from more formally developed skill on two counts," says the author. "It is generally difficult to articulate, and/or it is informal." She gives examples of tacit skills, learned on the job, which made experienced workers more effective than formally trained, but inexperienced workers. Some of these skills can be taught, the author suggests, by developing expert models or by interpersonal and teamwork skills courses, though there is no substitute for experience. The tacit basis of much human skill performance has several implications:

- The type of knowledge an individual has may constrain the use to which it can be put.
- In staff selection and in assessment of training needs, consideration must be given to the informal or tacit dimensions of job performance.
- It should be examined whether tacit aspects of skilled performance are best developed by formal training programs, or by time spent on the job.
- Tacitly-developed skills and working practices should be considered in designing and implementing safety procedures. (AN184)

PROCESS TRAINING

Source: "Transferring 'Tecknowledgy,'" by William J. Whitmore, *Technical & Skills Training*, November-December 1992, pp. 6-9

"Tecknowledgy," this author says, is a training development process designed to pinpoint true technical experts, capture their knowledge, and transfer that knowledge to new generations of process experts. It is based, he continues, on 3 premises: (1) that the manufacturing know-how exists, (2) that process experts hold the knowledge, and (3) that the knowledge base needs to be expanded. "Tecknowledgy" transfer is based on a 3-team process—the trainer team, the transfer team, and the trainee team. The author goes on to describe the transfer process—(1) situation analysis, (2) strategy development, and (3) strategy implementation—and the various documentation and training tools that facilitate the process. Videos are very important to the transfer of training, he says, as he proceeds to examine the roles in the production of the training video: the subject-matter expert, the interviewer, and the camera person. He also discusses the 5 pieces of equipment that are essential to the production: (1) a video camcorder with in-camera editing, audio monitoring capabilities, and auxiliary audio input; (2) a wireless radio microphone system that is light and portable; (3) a highly portable lighting system; (4) a fluid head tripod for lengthy stationary shots; and (5) a camera accessory kit. (AN185)

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EQUIPMENT TRAINING

Source: "Get the Most from Equipment Training," by Bertie Lee Murphy, *Technical & Skills Training*, January 1992, pp. 15-19

Letting important training information slip through the cracks is the greatest problem with equipment training, this author charges. She argues that planning, scheduling, and communication are vital if equipment training is to succeed. She describes 3 steps that must be taken before a company embarks on equipment training:

1. A **policy audit** clarifies the company's training policy, ensuring that the training manager is included in policy making and planning for equipment acquisitions, and requiring that equipment training design plans be approved by the company prior to implementation.
2. **Planning** includes (a) a master logistical calendar for beginning and ending dates, facility locations and trainees involved in each course scheduled, and (b) a course requirements chart that details course content, objectives, teaching strategies and training resources needed.
3. **Decisions** are made only after careful consideration of the specifications and terms included—and not included—in the equipment training contract, assuming that if you don't ask for something before the supplier quotes a price, you won't get it afterward.

At a minimum, the author concludes, suppliers should furnish 4 types of documents to support their training program: (1) a training plan describing the "what," "how," and "where" of equipment training, (2) training objectives and performance outcomes for each course, (3) detailed lesson plans, and (4) user manuals and training materials. (AN186)

CROSS-TRAINING

Source: "Cross-Discipline Training: A Strategic Method to Do More With Less," by Max Messmer, *Management Review*, May 1992, pp. 26-28

With constant corporate downsizing, it is no longer enough for employees to perform tightly defined responsibilities, oblivious of other departments. Cross-discipline training, says the author, can help employees understand the relationship of their function to others so that everyone can work toward the common goal. Additionally, cross-discipline training is cost-effective in that it encourages more strategic and efficient hiring practices within the company, allowing more payroll dollars to be freed up for flexible staffing approaches, such as the use of specialized temporary workers. Top-down support is essential to cross-discipline training, he says, as is management's commitment of financial resources to the project. Further, managers' attention to internal training should not be allowed to count against their executive compensation plans. With management commited to cross-discipline training, employees can then be convinced of its benefits, which the author sees as: (1) the ability to engineer their own career paths, (2) job security for adaptable employees, (3) compensation to reflect new levels of achievement, (4) less stagnation and boredom, (5) better understanding of their own responsibilities through training others, (6) improved performance evaluations, and (7) fun. (AN187)

MORE ON CROSS-TRAINING

Source: "Keep Up Production Through Cross-Training," by Joyce E. Santora, *Personnel Journal*, June 1992, pp. 162-166

Most employees are motivated to learn—and capable of mastering—other tasks related to their work, says this author, and she recounts the experience of Graphics Controls Corp. (GCC) of Buffalo, NY, in cross-training skilled employees to perform other jobs within the company. Beyond the obvious time and money savings for the firm, women and minority employees have also benefited by receiving education and training to increase their chances of moving up within the company. Four steps are involved in the process of motivating employees to take on additional training and to be willing and qualified to work wherever the need arose:

- Managers first review the work flow in their individual departments, establishing their needs for additional or backup coverage.
- The managers then work with HR specialists to develop a training curriculum and choose a trainer.
- The position for which trainees are being sought is posted by the employee relations department.
- Training is completed, and the individual joins a pool of designated trainees who will later be selected to fill the position on a temporary basis (and at higher pay) when the need arises.

When more than one person in the pool has been trained for a particular position, the author explains, the selection is made according to seniority and availability. Training lasts from 4 to 13 weeks, and most trainees find themselves bidding on newly posted positions within 6 to 18 months of the initial training. Interest in the program has spread to other areas of the company, says the author, citing inquiries from clerical and professional personnel as well as their technical staff. Although the program has been very successful at the company's Buffalo plant, officials concede that it will probably not be adopted at other sites due to differences in product and in management style. (AN188)

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TRAINING IN THE METRIC SYSTEM

Source: "Mastering Metrics," by Marilyn B. Gilbert and Thomas F. Gilbert, *TRAINING Magazine*, September 1992, pp. 47-51

Metrics training is no longer optional, these authors announce. They point out that, by law, all US government agencies must go metric by October 1992, and that by January 1993, most businesses will have to follow suit, since the government will no longer purchase anything that is not sized in metrics. The authors summarize the US's flawed history of trying to establish a metric system, and they stress that the key to success now is to teach people to think in metrics and not offer conversion formulas to them: basic visual and memory aids are much more effective, and longer lasting. The authors recommend sticking only to what tables employees need to know, and they conclude with several additional reasons why organizations should engage in metric training:

- Employees are likely to be doing at least some increased business in metrics.
- Since no one can fully know yet what the metric conversion will mean to them, they should be prepared.
- If done right, the costs will be miniscule.
- Teaching metrics can be viewed as performing a public service at a very low cost. (AN189)

SURVEY OF APPRENTICESHIP PRACTICES

Source: "Apprenticeships: Something Old, Something New, Something Needed," by Joseph F. McKenna, *Industry Week*, January 20, 1992, pp. 14-20

Fewer than 2% of U.S. high school graduates enter apprenticeships, says the author. Rather, most apprenticeships are a narrow, adults-only passage to skilled jobs. As he explores the problem, the author quotes a number of experts, including the American Society for Training and Development's Anthony Carnevale who sees the emerging apprenticeship program in the U.S. as a modular system, "a system that's fluid and flexible, structured for work experience and learning simultaneously, and having a ladder on it so [apprentices] can get a college degree." The author believes that America has a systems problem with regard to the school-to-work transition that needs a system solution. He highlights a Cornell-funded project at Broome Community College, which is structured to be a model project which will, hopefully, inspire similar projects around the country. "The formal linking of student, parents, school, and workplace is the real magic of the Youth Apprenticeship Demonstration Project," he says. Other programs he mentions are the Boston PIC's Project Protech, a metal-working apprentice experiment undertaken by the Pennsylvania Department of Commerce, and Project Mechtech in Maryland's Department of Economic & Employment Development. The author also notes changes in laws in Wisconsin and Oregon to allow youth apprenticeships. A sidebar examines European apprenticeship models. (AN190)

REVIVING THE YOUTH APPRENTICESHIP MODEL

Source: "Apprenticeships: High School to High Skills," by Bob Filipczak, *TRAINING Magazine*, April 1992, pp. 23-29

Only a minority of high school graduates go on to college, this author gloomily reports—adding that those who don't often get stuck in low-skill, low-wage, dead-end jobs. One solution to this problem, he says, is the youth apprenticeship model, a concept currently being resurrected and renovated by educators, government officials and some businesses. Youth apprenticeships are a variation of the work-based learning model which evolved from traditional apprenticeships, and they feature on-the-job-training, supplemented by some classroom time. The author goes on to describe the success German companies have had with this type of program, and then he points out the difficulties that face implementation of such programs in the U.S.: (1) the German model forces adolescents to make life-shaping decisions by the age of only 16, (2) American businesses would be forced to commit to apprenticeships as an investment in the future of the workforce and the long-term success of the country, and (3) American firms are afraid of piracy—another company stealing away the apprentice they spent a lot of time and money training. The author decries the current inadequacies in U.S. vocational/technical education programs. Youth apprenticeships, he says, would provide incentives for students to do well in school, because doing so would make them eligible for good apprentice positions. To get off the ground in the U.S., the whole concept of apprenticeship will need to gain acceptance beyond the traditional building trades, and yet this will require substantial anticipation of future job needs—a forecast that many companies are uneasy about making. Still, many experts agree that if labor, parents, schools, government and business would join forces in this effort, many of the potential obstacles to apprenticeships can be overcome. The author closes by discussing the need for industry-specific rather than company-specific programs, a feature he says is essential if an apprenticeship is to have any real meaning. (AN191)

GUIDANCE FOR THE WOULD-BE APPRENTICE

Source: "Apprenticeship," *Occupational Outlook Quarterly*, Winter 1991-1992, pp. 27-40

"Apprenticeship is a relationship between an employer and an employee during which the worker, or apprentice, learns a trade," explains the author. Related

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instruction for the typically 4-year program generally takes place in a classroom. The author describes the registration of apprenticeship programs which qualify under federal guidelines, and he lists the benefits of apprenticeship. Then the author discusses the factors prospective apprentices should consider as they choose a trade. He highlights the process of qualifying for a program—both objective testing and the interview. Even when candidates get on a register, there can be a wait of months or years, he warns. He discusses where to go for help, as well as special programs for the disadvantaged. The article includes a listing of the number of apprentices in the top 80% of apprentice positions, topped by electricians, carpenters, plumbers, pipe fitters, and sheet metal workers. A 5-page appendix lists the entire range of apprenticeable occupations and the term of apprenticeship for each. The article concludes with a state-by-state listing of government offices which work with apprentice programs. (AN192)

A-2. TRAINING FOR TEAMS

ENSURING TEAMWORK: A CHECKLIST FOR USE IN DESIGNING TEAM TRAINING PROGRAMS

by Robert W. Swezey, Robert E. Llaneras, and Eduardo Salas

Although the use of research-based instructional principles in applied training situations has been identified as an effective means of improving training (Guerette, Miller, Glickman, Morgan, and Salas, 1987), such principles are difficult to find. Several sources which do contain training-related guidelines are available; however, research indicates that instructional designers and developers are rarely aware of these sources of information. Further, such information is often difficult to use. In one study, for instance, Swezey, Llaneras, and Salas (1989) found that even frequently used guidelines documents such as the DoD Instructional Systems Development (ISD) guidelines, and MIL-STD-1472 Human Factors Guidelines, suffered from numerous problems, including high levels of generality and low levels of prescription and relevance. Many such documents do not address issues of concern to instructional designers, nor do they offer prescriptive guidance for developing and implementing training programs. It is clear that if instructional designers are to benefit from the information gained through years of research and experience, they must be provided information which is relevant, specific, prescriptive, clear, and easily accessible.

This problem is particularly acute in the area of team training, where *prescriptive* design and evaluation guidance are almost totally nonexistent, despite years of research experience in developing team training programs and devices. Recent interest in this area has led to several efforts designed to bridge the gap between research and practical application. Swezey and Salas (1987), for instance, created a classification system for team training issues, and identified and classified within the taxonomy actual team training guidelines for use by training developers. In that effort, over 500 guidelines which prescribed action(s) or condition(s) were identified and extracted. As part of this work, a team training checklist was developed. Its intent is to allow a user to determine how a team training program (or device) compares with known guidelines from the literature. This article presents an abridged form of the team training checklist, discusses its development, and describes the procedures necessary for its use.

Team Training Guidelines

Although many recommendations exist for developing *individual* training programs and devices, relatively few specifically address *team* training (Swezey & Salas, in press.) As a result, practitioners interested in developing team training programs and devices must often resort to using recommendations geared for the development of individual-based instructional programs and devices. However, reliance on these alone may not be adequate, given current research into the nature of team coordination and performance. That teams are complex entities is reflected in the numerous definitions which attempt to characterize them (for instance, see Glickman et.al., 1987; Modrick, 1986; Morgan et.al., 1986). Although diverse, virtually all such definitions suggest that effective teams require both interaction and interdependence. Principles and guidelines for use in developing team training programs and devices must not only address these types of unique concerns, but they must also be organized and stated in precise and understandable terms.

Why Checklists?

Checklists provide an efficient and functional vehicle for organizing and presenting guideline information. When used as job aids, checklists can help to compensate

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Figure 1. Teamwork Characteristics Checklist

Teamwork Characteristics Checklist

Does your team training program include the following teamwork characteristics?
If YES, check box, If NO, leave blank.

How important is this characteristic for enhancing team performance?
Please rate each issue using the following scale (circle one):

0 = not important
1 = slightly important
2 = moderately important
3 = very important
4 = extremely important

1. Provides clear communication of team objectives to all team members.	☐	0 1 2 3 4
2. Provides training on the team's organizational chain of command.	☐	0 1 2 3 4
3. Provides training on the responsibilities of all team members.	☐	0 1 2 3 4
4. Provides training on the responsibilities of all team leaders.	☐	0 1 2 3 4
5. Specifies interdependencies in the performance of team activities.	☐	0 1 2 3 4
6. Provides training on all team operations and tasks.	☐	0 1 2 3 4
7. Provides training on how to maintain team leader effectiveness.	☐	0 1 2 3 4
8. Includes performance aids or other adequate supplementary documentation on teamwork characteristics.	☐	0 1 2 3 4
9. Provides criteria to use in evaluating mastery of teamwork skills and concepts.	☐	0 1 2 3 4
10. Provides a way to identify areas where remediation is necessary.	☐	0 1 2 3 4
11. Provides training on techniques to foster communication among team members.	☐	0 1 2 3 4
12. Provides training on techniques to foster team performance coordination.	☐	0 1 2 3 4
13. Provides training on techniques to foster shared attitudes among team members.	☐	0 1 2 3 4
14. Provides training on techniques to foster respect for leadership and authority.	☐	0 1 2 3 4
15. Provides generalized feedback on overall team performance.	☐	0 1 2 3 4
16. Provides feedback to team members on their individual performance.	☐	0 1 2 3 4
17. Provides opportunities to experience group interaction in performing team tasks.	☐	0 1 2 3 4
18. Provides training in conditions which approximate the operational environment.	☐	0 1 2 3 4
19. Provides examples of both acceptable and unacceptable team performance.	☐	0 1 2 3 4
20. Provides for instructional sequencing based upon task complexity (simple tasks precede complex tasks.)	☐	0 1 2 3 4
21. Provides for instructional sequencing based upon increasing levels of teamwork.	☐	0 1 2 3 4
22. Provides for team performance criteria which take into account changes in team member assignments.	☐	0 1 2 3 4
23. Provides for team performance criteria which take into account the quality of team performance.	☐	0 1 2 3 4
24. Provides for team performance criteria which take into account the effectiveness of individual team member's interpersonal skills.	☐	0 1 2 3 4
25. Provides a means to communicate events which may cause special teams or subgroups to be disbanded.	☐	0 1 2 3 4
26. Provides for periodic analyses of team training programs in terms of the adequacy of their instructional sequencing.	☐	0 1 2 3 4
27. Provides for periodic analyses of team training programs in terms of the adequacy of their instructional methods.	☐	0 1 2 3 4
28. Provides a means to cross train individual team members across team tasks.	☐	0 1 2 3 4
29. Provides for training team members to identify when the team leader is unable to lead.	☐	0 1 2 3 4
30. Provides for training team members on how and when to assume a team leadership position.	☐	0 1 2 3 4

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Figure 2. Instructional Characteristics Checklist

Instructional Characteristics Checklist

Does your team training program include the following teamwork characteristics?
If YES, check box, If NO, leave blank.

How important is this characteristic for enhancing team performance?
Please rate each issue using the following scale (circle one):

0 = not important
1 = slightly important
2 = moderately important
3 = very important
4 = extremely important

1. Provides for immediate feedback and knowledge of results to students.	☐	0 1 2 3 4
2. Provides for positive forms of reinforcement.	☐	0 1 2 3 4
3. Provides for negative forms of reinforcement.	☐	0 1 2 3 4
4. Provides for variation of the amount of feedback during training stages.	☐	0 1 2 3 4
5. Provides instructional techniques which can accommodate to different learning rates among students.	☐	0 1 2 3 4
6. Provides instructional techniques which can accommodate to different styles of learning among students.	☐	0 1 2 3 4
7. Provides instructional techniques which can accommodate to different levels of skill among students.	☐	0 1 2 3 4
8. Provides for variation in the pace of training.	☐	0 1 2 3 4
9. Provides for part-task training.	☐	0 1 2 3 4
10. Provides for frequent and regular practice of learned skills.	☐	0 1 2 3 4
11. Provides for administration of distributed practice.	☐	0 1 2 3 4
12. Provides for immediate application of learned skills.	☐	0 1 2 3 4
13. Includes a capability for presentation of graphics.	☐	0 1 2 3 4
14. Includes a capability for presentation of sound.	☐	0 1 2 3 4
15. Includes a capability for presentation of animation.	☐	0 1 2 3 4
16. Allows for provision of incentives to students.	☐	0 1 2 3 4
17. Provides for competition and challenge among students.	☐	0 1 2 3 4
18. Includes a capability for active participation by students.	☐	0 1 2 3 4
19. Provides for instruction which is related to past experiences of the students.	☐	0 1 2 3 4
20. Provides for explicit communication of learning objectives to students.	☐	0 1 2 3 4
21. Provides a capability for evaluation of pre-instructional knowledge and capabilities.	☐	0 1 2 3 4
22. Provides adequate opportunities for students to acquire and store information.	☐	0 1 2 3 4
23. Provides for gradual decreases in the use of learning aids.	☐	0 1 2 3 4
24. Organizes instructional goals around clearly specified behavioral objectives.	☐	0 1 2 3 4
25. Provides an overview of the instructional domain.	☐	0 1 2 3 4
26. Provides for a correspondence between courseware/media and training objectives.	☐	0 1 2 3 4
27. Provides for variability in content which approaches real life situations.	☐	0 1 2 3 4
28. Provides conditions which increase in similarity to the operational environment as training progresses.	☐	0 1 2 3 4
29. Provides a capability for assessing the accuracy of student performance.	☐	0 1 2 3 4
30. Clearly specifies requirements for advancement by students.	☐	0 1 2 3 4
31. Provides warm-up exercises.	☐	0 1 2 3 4
32. Provides sample items for use in self-evaluation by students.	☐	0 1 2 3 4
33. Provides for built-in performance evaluations during the conduct of the training program.	☐	0 1 2 3 4

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Figure 2. Instructional Characteristics Checklist (cont.)

Instructional Characteristics Checklist

Does your team training program include the following teamwork characteristics?
If YES, check box, If NO, leave blank.

How important is this characteristic for enhancing team performance?
Please rate each issue using the following scale (circle one):

0 = not important
1 = slightly important
2 = moderately important
3 = very important
4 = extremely important

34. Provides for frequent and regular testing.	☐	0 1 2 3 4
35. Provides for session lengths which are within the attention span of the target audience.	☐	0 1 2 3 4
36. Provides for generation of performance records which records acquired competencies.	☐	0 1 2 3 4
37. Provides a capability for storage of performance records.	☐	0 1 2 3 4
38. Provides an environment which allows for successful completion of all training objectives.	☐	0 1 2 3 4
39. Provides for discrimination among situations which require student responses and those which do not.	☐	0 1 2 3 4
40. Provides technically accurate instructional content.	☐	0 1 2 3 4
41. Provides instruction based upon the minimal information necessary to accomplish training objectives.	☐	0 1 2 3 4

for human cognitive limitations, enhance information storage and retrieval, and assist in performing work activities. As a result, checklists are often employed either to evaluate performance, or to guide it, via statements that describe critical attributes of a procedure or product (Geis, 1984). When properly constructed and implemented, checklists can facilitate both instructional design and evaluation by defining the domain and scope of a problem, addressing relevant issues, and identifying deficiencies. Moreover, checklists have a demonstrated history of successful application in such situations (Hamel & Clark, 1986).

The Teamwork Checklist

In this effort, a teamwork checklist was constructed, using principles extracted from the team training literature. The checklist was designed for use in analyzing team training programs and devices, and may be used to determine how a specific team training program or device compares with known guidelines from the research literature. The checklist is composed of 71 items derived from the guidelines extracted by Swezey & Salas (1989), and is organized into two categories: a Teamwork Characteristics checklist, and an Instructional Characteristics checklist.

Each item in the checklist is accompanied by a 5-point rating scale. In a simple two-step process, users may first place a check in the box if their team training program or device includes the guideline characteristic. Secondly, irrespective of whether or not the issue was addressed, users may rate each characteristic in terms of its importance to improving team performance in their particular situation, using the 5-point rating scale.

This format enables shortfalls in the team training program (or device) to be identified, and also serves to prescribe areas for potential improvement or modification. For example, if an item is not checked (as being included in the specific program or device being assessed), but an importance rating of three or four has been assigned, the specific attribute in question could represent a potential area for redesign or modification of the program or device.

The Teamwork Characteristics checklist contains 30 specific recommendations for developing and/or evaluating the teamwork aspects of a team training program or device. The checklist addresses a variety of topics found to be relevant to team performance, including leadership, communication, task organization, decision-making, and team organization, among others. This checklist is shown in Figure 1. Each item is designed to be observable, objective, and tailored to the team training environment.

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Items address such teamwork oriented issues as: The use of techniques to foster shared attitudes, respect for leadership and authority, and performance and coordination.

Composed of 41 items, the Instructional Characteristics checklist addresses learning principles that, when incorporated into a team training program, can facilitate the acquisition, retention, and retrieval of information. Figure 2 shows this checklist.

Summary

Guidelines are general rules or principles that can be applied or adapted to specific design and evaluation situations. Ideally, documents containing guidelines in the area of training and instructional development will provide individuals interested in instructional-design issues with practical and relevant information. In reality, many documents contain information which is so general as to provide little guidance in terms of how to achieve particular design and evaluation goals encountered in everyday situations. This is demonstrated, to some degree, in the Teamwork Checklist. While the vast majority of items in the Teamwork Checklist offer specific and prescriptive recommendations, some items can clearly benefit from additional specification. Unfortunately, available evidence in the team training area does not currently accommodate an extensive and detailed set of guidelines. Further research and investigation, intended to advance the body of empirical evidence and increase the level of prescription, in this area is encouraged.

Instructional design checklists provide a common ground upon which to make comparisons among training programs and devices, since they operationally define relevant dimensions. A design checklist can be used to ensure that a product conforms to established principles or requirements and/or to identify problem areas simply and quickly.

The evaluation feedback associated with the Teamwork Checklist allows program developers to determine if a team training program or device is compatible with current research-based principles and suggests the areas that are most and least effective. Lacking such feedback, program developers may be unaware that a team training program or device could be improved by modification; or they may be unsure of how best to modify such a program when they believe that a change is necessary.

Note

The views expressed in this paper are those of the authors and do not necessarily reflect the position of the U.S. Government.

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BUILDING SELF-DIRECTED TEAMS

by Richard S. Wellins

Today's workers want opportunities to work with their heads as well as their hands. They demand greater participation, flexibility, and autonomy. To succeed in the coming decade, employers now focus on empowering their workforces. Business leaders have come to realize that innovations to reduce defects won't come solely from the minds of a few "superleaders." They will be created by a culture that fosters continuous improvement—small, incremental changes made by every worker, every day.

The new and growing use of self-directed teams (SDTs) is one step toward that empowered work culture. SDTs are small groups of employees with day-to-day responsibility for managing themselves and their work. SDT members typically handle job assignments, plan and schedule work, make production-related decisions, and resolve problems. Working under minimal direct supervision, SDTs differ in design from quality circles and cross-functional task groups through their formal, permanent organizational structures.

And unlike traditional organizational structures, SDTs operate with fewer layers of management and require team members to learn multiple jobs and tasks. They also allocate many tasks to the team that once were reserved for supervisors or managers— such as hiring, firing, appraisal, and scheduling.

A recent survey that we conducted with *Industry Week* magazine and the Association for Quality and Participation (AQP), estimates that about 25 percent of U.S. companies have implemented SDTs somewhere in their organizations. Organizations using SDTs—ranging from manufacturers such as Texas Instruments and Digital Equipment Corporation to service companies such as Aid Association for Lutherans (AAL)—have racked up impressive results, retaining or reducing labor costs while improving productivity and service by 50 percent or more.

Instituting an empowerment culture is no small feat. To avoid a management-directed nightmare, SDTs require major organizational and cultural changes. Moreover, the levels of employee involvement and trust required of SDTs mean that failed implementations could set back an organization's empowerment efforts for years.

So to make self-directed teams work, your organization must tackle five key steps: designing teams for success; selecting team players; training for success; initiating leadership transitions; and rewarding team performance.

Designing Teams for Success

The most important step in successfully implementing SDTs is a simple one: Make planning a priority. In moving toward self-direction, the organization and its employees need to consider several questions:

- Where do we start?
- What training do we need?
- How will SDTs affect our jobs?
- What role will support departments play?
- What responsibilities will be transferred from leaders to teams?

Here is a six-step process for getting started:

1. Learn about SDTs. If people in your organization understand the concept, the odds of success increase. Articles and books about workteams abound. In addition, several companies sponsor conferences about the team concept, and some team-based organizations welcome visitors.
2. Conduct a "readiness" assessment to determine if teams are right for your culture. Existing instruments and interview guides can help determine if teams or alternative forms of empowerment strategies will work in your organization.
3. Let employees know how the organization views empowerment and teams. Management needs a clear picture of where the company should go and how the concept of self-direction ties in with the existing mission and cultural values.
4. Take your organization through a "workplace redesign." This process, also known as "sociotechnical design," requires an organization to examine closely the nature of its work (e.g., work flow, job design, layout) and its social systems (compensation, training, hierarchy, appraisal). The organization then blends its work and systems to maximize organizational productivity and employee satisfaction. This normally requires the formation of a committee to take the organization through the redesign process. The committee should include managers, line workers, and support staff—all of whom have a stake in the success of team implementation.

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5. Implement SDTs. The actual implementation should include the positive features found in any sound change process: open communication, leadership support, and training.
6. Continually evaluate SDT progress. Because most organizations convert on either a trial basis or in a "greenfield" (start-up) location, constant evaluation, adjustment, and improvement are critical.

Selecting Team Players

When organizations adopt self-directed teams, they need a workforce equipped with the competencies, skills, and values required for high-involvement organizations. If the conversion takes place in an existing organization with the current workforce, selecting team members is less important. But many self-directed teams begin in start-up operations where selection becomes key.

Any good selection system includes four major objectives:

- Accuracy in identifying the candidates who are most likely to succeed in the new organization
- Efficiency
- Legal defensibility
- Perceived fairness—which means that candidates feel they were treated justly, and their potential job performance was assessed accurately.

Setting up a team-oriented selection system begins by identifying the targets—called "dimensions" or "job competencies"—against which a team member's or team leader's performance is assessed. A job analysis helps here by generating a list of behaviors, technical knowledge, skills, and motivational areas that distinguish between successful and unsuccessful performers. In more than 100 job analyses conducted for team-oriented organizations, typical team member dimensions identified include: teamwork; problem identification and problem solving; ability to learn; communication; initiative; work standards; coaching and training; job motivation; technical ability; and work tempo (the ability to work at a relatively fast and constant speed).

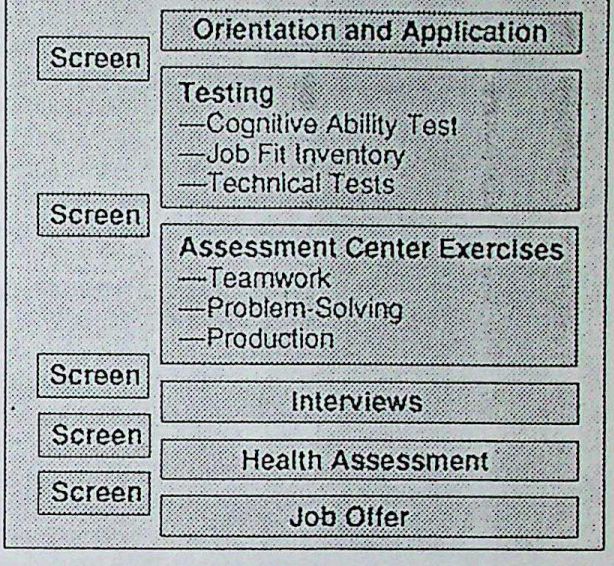
Team leaders usually need additional dimensions, including: individual leadership; group leadership; judgment; delegation; and encouraging and supporting initiative.

Once these dimensions are identified, you can begin designing the selection system (see Figure 1 for a typical team member system). The best systems often include a combination of techniques such as interviews, paper-and-pencil cognitive ability tests, technical tests, reference checks, simulations, and realistic job previews." Let's focus on these last two assessment tools.

Simulations provide a unique and highly accurate method of measuring job potential. Candidates encounter a series of structured activities that closely resemble the procedures required on-the-job.

Sample Team Member Selection System

Figure 1



For example, one large automobile manufacturer required a team of people to work together assembling parts according to a specific set of job instructions. This single, three-hour simulation assessed four dimensions: ability to learn, work tempo, attention to detail, and teamwork and cooperation.

A realistic job preview is another common feature in many selection systems. Frequently this involves a video that depicts the working environment and culture in a team-oriented facility. It serves as a mechanism for discouraging applicants who feel this is "not the place for them," and for encouraging applicants who see this as an exciting new workplace opportunity.

Finally, when implementing a selection system, make sure that the people involved in the selection process are trained to use these varied and high-powered selection techniques. Without such training, the whole selection system can be rendered worthless. At the same time, a good selection process can pay off through increased productivity, reduced turnover, and lower absenteeism.

Training for Success

In moving toward a team-oriented environment, don't underestimate the need for new types of training. SDTs encourage multiskilling and job rotation, which means a heavy investment in technical training. They also require workers, who in the past had been rewarded for individual performance, to learn to work together as a team.

Three categories of training are essential for effective team performance: job skills; team and interaction skills; and quality and action skills. Job skills are the technical skills required for job performance. Team and interaction skills are the interpersonal and communication skills that

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Sharing Ownership and Leadership

Serious implementation of self-directed teams is a fairly recent happening, says Richard Wellins. "Five to seven years ago, at a conference, if you said 'I'm here to talk about SDTs,' they would probably think you were talking about a new supersonic transport," Wellins quips. As he points out in his article, about 25 percent of U.S. companies have implemented SDTs somewhere in their organizations. While not a majority, at least more and more companies understand the difference between self-directed teams and supersonic transports.

In the book *Empowered Teams*, which Wellins co-authored with William Byham and Jeanne Wilson (San Francisco: Jossey-Bass Inc., Publishers, 1991), ownership of work is "the heart of self-directed teams." Wellins sees more acceptance of that concept, and he outlines three reasons for it. "One has to do with changing values, the values of the workforce are changing in the sense that they are demanding more participation in the workplace," he says. The second reason is competitive pressure and its push toward quality. "To get quality, people realize that managers can't do it themselves," he explains. And the third reason is the process of delayering too many layers of managers, in some cases 18 layers. With fewer managers controlling work processes, power pushes down through the organization.

Managers take a beating in the total quality management ring. Very often they're seen as the sparring partner, going up against the TQM champion. Their resistance is real and natural, says Wellins, because "they have to give up power, and they have to learn fundamentally new roles." But he adds, "the fingers are pointed at the managers and supervisors, and I think that is totally unfair."

Managers' perceptions can be changed, he says, through a strategy that includes, but goes beyond, training. This strategy has three components: skills (for instance, coaching and facilitating); awareness and commitment; and role clarity.

Wellins believes, however, that ineffective training—not supervisory resistance—is the number one barrier to successful team implementation. Figure 2 lays out the sequential steps for effective team training. Notice the long-term timeline, from 12 months before team start-up to two years after. "In fact, most organizations talk about a time span of two to five years to develop fully empowered teams," he writes in the book. He adds that "the important thing is to keep the training going over a period of years for the team."

Crosstraining is a highlight of self-directed teams, Wellins says. That's what makes these teams particularly suitable to technical training. SDTs are commonly used with multiskilling and pay-for-knowledge systems. "Self-directed teams provide an excellent, excellent way of putting teams in charge of their own skill development," he says. This connection between empowerment and continuous learning proves a bonus to technical environments "that require a wide multitude of skills and a lot of workforce flexibility," he says.

Reacting to the notion that SDTs are more difficult to implement in smaller companies with limited resources, Wellins says emphatically, "Do it, your chances for success are probably 10 times greater, because it's much easier in a smaller company to manage the culture change." That's why, he feels, some big companies start SDTs in their smaller plants first, rather than trying to sweep out the old culture in one bold stroke. Smaller companies, he says, have more control over the culture change. "It's like the difference between turning around a speed boat and an ocean liner," he adds.

Taking the concept of continuous improvement seriously, Wellins now uses the term "shared leadership teams" as well as "self-directed teams." That term, he says, describes reality better, because some self-directed teams share leadership responsibilities. But not all such teams take leadership roles.

What was that conversation about supersonic transports?

—Ellen S. Carnevale

team members need, skills such as giving and receiving feedback, handling conflict, valuing diversity, working in teams, and training and coaching. Quality and action skills involve identifying problems and making improvements. These include statistical process control (SPC), training in various types of quality tools, techniques for continuous improvement, and troubleshooting.

Those in leadership positions also need training in topics such as coaching for success, reinforcing effective performance, encouraging and supporting initiatives, and team leadership. Successful self-directed organizations commonly spend up to 20 percent of a team member's or leader's time in these various training activities during the first year of operation.

To train teams, follow these tips:

- First, don't underestimate the amount of time and effort required to teach new skills during the conversion to SDTs.
- Second, the training of both management and staff or support department personnel is critical to the success of self-directed teams. Engineers,

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Sequential Steps for Effective Team Training

Figure 2

Before Team Start-Up

Time Frame	Managers, Group Leaders, and Key Support Members	Team Leaders	Team Members
12 months before	Facilitated agreement on mission, vision, and values for the line	(Not yet selected)	(Not yet selected)
11 months before	Project planning and implementation training		
10 months before	Team-building activity Management team development planning		
8 months before	Team-building activity		
6 months before	Selection skills training Empowerment training Leadership and influence training		
5 months before	Group leadership training	Orientation: • Mission, vision, and values • Role clarity • Expectations and objectives • Personal development planning • Basic interaction skills training	
4-1/2 months before	Developing organizational talent training (to agree on development plans for team leaders)	Technical training on new equipment and processes, interspersed with team-building activities	
3 months before	Encouraging initiatives training (to help team leaders actually implement an improvement)	Action skills training: • Analyzing customer requirements • Identifying root causes • Exploring alternatives • Implementing improvements • Evaluating projects	
2-1/2 months before	—Joint team-building activity—		
2 months before		Selection skills training	
1 month before		Facilitator training: • Coaching • Reinforcing	
3 weeks before		Job skills training	Orientation: • Mission, vision, and values • Expectations • Personal development planning • Basics of working in teams
2 weeks before		Leading meetings	Technical training on new equipment and processes, interspersed with basic interaction skills training
1 week before	—Joint team-building activity—		

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Figure 2 (cont.)

After Team Start-Up

Time Frame	Managers, Group Leaders, and Key Support Members	Team Leaders	Team Members
5 weeks after		Encouraging Initiatives	Meetings skills: participating and leading
6 weeks after		(Team leaders deliver action skills training within their own teams)	Action skills training: analyzing customer requirements
7 weeks after			Action skills training: identifying root causes
8 weeks after		Valuing differences	Action skills training: exploring alternatives
9 weeks after			Action skills training: implementing improvements
9 to 14 weeks after		(Team leaders provide coaching and reinforcement)	(Team members actually implement their planned improvement)
14 weeks after			Action skills training: evaluating the project
16 weeks after		• Performance planning and feedback training (followed by actually setting process and results objectives) • Team development and diagnosis	
4 months after	—Renewal activity—		
5 months after	Leadership team assesses its performance	(Team leaders prepare to deliver additional training)	Gaining team agreement
6 months after			Assessing team performance
1 year after	—Renewal activity—		
1 year to 18 months after			Team members start to pursue their own needs and interests: making presentations, budgeting, etc.
18 months after	—Refresher training in leadership skills—		
18 months to 2 years after		Teams leaders support team members; prepare to deliver additional training	Refresher training in basic interaction skills, including handling conflict, influencing others, and supporting others
2 years after	—Renewal activity—		

Excerpted from: *Empowered Teams*, R.S. Wellins, W. Byham, and J. Wilson. San Francisco: Jossey-Bass Inc., Publishers, 1991. Reprinted with permission.

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accountants, and training professionals should be as skilled in team and interpersonal skills as are the team members themselves.
- Third, training works best when provided over time rather than in one shot. Some organizations offered all their training in four- to six-week "training colleges," which proved difficult for all—especially for production workers accustomed to walking the floor rather than sitting in class.
- Finally, involve teams in selecting, developing, and delivering the training. Make it team-centered, not management-centered.

Initiating Leadership Transitions

Remember that SDTs transfer to the team many of the responsibilities previously reserved for supervisors and managers. As a result, supervisors and managers often find themselves in a "Catch 22" regarding self-directed team implementation—bosses are being asked to serve as coaches while at the same time they are worrying about the security of their own jobs.

At this point, supervisors and managers might ask themselves the following questions:

- How will I be involved in the self-directed team design effort?
- Will I lose my job?
- Do I have the right skills to make the transition?
- Will I be blamed if things don't work out?

In the survey discussed earlier, 68 percent of organizations using self-directed teams were able to operate with fewer managers, and 95 percent of the respondents found this change to be beneficial.

In reality, few organizations have totally converted to SDTs. Managers and supervisors still serve as valuable resources, although their roles change radically. In a traditional organization, managers control and schedule work, appraise and discipline employees, hire and fire, and in many cases are solely responsible for the quality of the product or service.

But in self-directed team organizations, the team assumes all these functions. This change frees managers and leaders to take on an entirely new set of responsibilities—such as coaching and training team members, serving as the contact for suppliers, helping the team access the resources and training needed for success, filling in when team members are absent or during peak-demand periods, and helping the team coordinate its efforts with other teams and departments within the organization. This is not an easy adjustment for many managers to make. Sometimes first- and middle-level managers get in the way of a successful team transition.

When making the transition to self-directed teams, an organization has several options other than reducing the number of managers and supervisors. In some cases, supervisors take on responsibilities as team members while retaining their current level of compensation. Unfortunately, some supervisors reach their managerial positions based on their technical competencies and not on their motivation to lead and manage others. As a result, some prefer to return to team member positions. In other cases, organizations ask managers to assume "technical expert roles" in a particular production process, making them "process managers." In these cases, the managers or supervisors are not actually responsible for leading other people, but they are perceived resource experts in a particular technical skill or process area. Finally, team leaders and managers can become team facilitators and coaches, helping their organizations and teams make the transition to self-direction.

Organizations can help their supervisors and managers make successful transitions by ensuring that these employees have clear expectations about their new roles. The organization also should provide significant training and new types of leadership skills, ensure that change occurs slowly enough to allow leaders and managers to learn their new roles, and involve leaders and managers in the change process.

Rewarding Team Performance

For years, American industry has rewarded the lone hero. Individual performance or seniority drove pay increases. But with a move toward self-directed teams, the attitudes toward compensation and reward systems have changed. Organizations using self-directed teams commonly implement various types of "gain sharing" or "team bonus" programs, along with skill-based compensation plans.

Skill-based plans hold a unique advantage for SDTs because they base rewards on the number of skills a team member masters and applies, thus increasing production flexibility. They reward team members in three areas:

- *Job depth.* Team members are paid increasing amounts for learning a specific process in greater depth. For example, first they might learn how to operate a piece of equipment, then move on to perform basic preventive maintenance and, finally, advanced maintenance on that same piece of equipment.
- *Job breadth.* Team members learn all the jobs or tasks required of an entire team. For example, in an automobile company, the seat assembly team might have six or seven different production tasks, each performed by one team member. But all team members learn all the tasks.
- *Vertical skills.* With this third and least common method, team members learn leadership skills used in all jobs. Examples include troubleshooting techniques, training, safety, and leading meetings.

Gain-sharing or team bonus programs can also reward team performance. These programs reward teams for

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performance increases in productivity that exceed some measure of baseline performance. In many cases, management divides the bonus equally among team members, although occasionally teams decide how to distribute the bonus among themselves.

Those in the Know

SDTs are one of the most powerful empowerment strategies available to employers today. Hundreds of organizations are using such teams with great success. The keys to SDTs are careful planning, selecting the right team members and leaders, designing teams for success, training continuously, and carefully managing the shift of power and responsibilities from leaders to the team members. When successful, the conversion to teams fortifies an organization to withstand the storms battering today's marketplaces. More than that, however, SDTs help improve employees' workplace participation, productivity, and quality of life.

TDY 93/94 IN BRIEF

GUIDE FOR BUILDING WORK TEAMS

Source: "How to Build a Successful Team," by Geoffrey Bellman, *Info-Line* (American Society for Training and Development), December 1992, 20 pages

In a 1990 survey conducted by the American Society for Training and Development, nearly 1/3 of responding companies reported having work teams. This article serves as a primer to describe the various aspects of team formation and development. The author discusses in outline form the following topics:

- Benefits of teams to the company,
- Common indicators of team success,
- The team life-cycle: forming, storming, norming, performing, adjourning,
- A training curriculum to enhance team player skills,
- Team roles: supervisor, leader, teacher, coach, mentor, consultant, and mediator,
- Team leader competencies: mastery of change, vision, walking the talk, and coaching—with sidebars on coaching steps and the coaching cycle,
- Team decision-making, and
- Dealing with team conflict.

Finally, the author describes the 3 main types of teams and provides a step-by-step process for building the first two types: (1) problem-solving teams, (2) process improvement teams, and (3) self-directed work teams. (AN193)

MANAGERIAL TEAM DEVELOPMENT

Source: "Team Development: This Is How It's Done," edited by Jeffrey Gold, *Executive Development*, Vol. 5, No. 3 (1992), pp. 1-32

This entire issue of *Executive Development* is devoted to the process of developing teams—both training members of a management team and training members of work teams. The individual articles include:

- "Building Our Team—From the End of a Rope"—which explores training a management team through outdoor training.
- "Measures Which Help You Work Together as a Team"—which discusses 3 different feedback instruments: the Types of Work Index, the Team Management Index, and the Linking Skills Index.
- "Improved Teamworking Using a Computer System"—which reviews the computer-based Belbin *Interplace III Expert System* that is used to help determine and understand an individual's team role.
- "From Public to Private: The Team Approach at Scottish Hydro Electric plc"—which outlines a development program for 130 senior managers.
- "Management Team Building: An Experience at BT"—which explains a management team development workshop at British Telecom.
- "Organizational Change Through Team Development at BICC"—which describes a senior management team development exercise at a company implementing work teams throughout its organization.
- "Team-Built Teams"—which reviews 3-day team-building workshops at Colworth House Laboratories as part of a total quality initiative.
- "Developing the Team at Northamptonshire Police"—which describes a management team development effort.
- "Know Thy Team—and Play Your Trump Card!"—which outlines the *TeamBuilder* analysis of 5 team roles used at a London-based design company.
- "Improvement Teams at Champion Spark Plug"—which describes workshops to train total quality management improvement teams at a manufacturing plant. (AN194)

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MORE ON MANAGERIAL TEAM DEVELOPMENT

Source: "How to Build Teams," by Alan Fowler, *PM Plus*, March 1992, pp. 25-27

Teamwork at managerial and professional levels is the focus of this article, which begins by defining 2 main types of teams: the permanent team and the limited-life team. The author then describes the functions of various sized teams and the Belbin typology which defines the various roles within the team: (1) the coordinator, (2) the implementer, (3) the plan or ideas person, (4) the resources investigator, (5) the shaper, (6) the monitor-evaluator, (7) the teamworker, and (8) the completer-finisher. The author next points out 2 types of team training and development:

- Individual training in the theory of team behavior and in how to recognize one's own and others' team styles, and
- Team training as a team—developing its capabilities and the ways it interacts.

The author suggests considerations that must be resolved before deciding to implement the second approach. For one thing, this process may be very stressful for introverted people or for anyone whom the process reveals to have significant personality problems. Also, team skills are very time-limited, and this training may not be appropriate for skills needed for the long run. (AN195)

EXERCISE FOR BUILDING TEAM TRUST

Source: "The Team-Trust Game," by Glenn Thompson and Paul F. Pearce, *Training & Development*, May 1992, pp. 42-43

To emphasize the importance of trust within a team, the authors designed the Team-Trust Game. They used it with a group 125 employees divided into subgroups of 16; each subgroup was further divided into 2 competing teams of 8 members. The task consisted of reproducing the arrangement of objects on a table out of view, using objects on a table visible to all the team members. The complicating factor was the possible presence of one or 2 saboteurs on each team. Saboteurs gave incorrect information, challenged information given, rearranged their team's objects, and created distractions. "The deciding factor," concluded the authors, "was the amount of time and energy a team spent dealing with the mere idea of a saboteur in its midst. Teams that were most concerned with saboteurs always lost. Always." The authors describe the actions of the various teams, and then they explain what happened when they asked each winning team to describe to the other team in its group how it handled the issue of possible saboteurs and team trust. When winners talked, the difference between success and failure became obvious. "During this stage," they note," it's important to provide supportive facilitation. It's often painful for participants to confront their distrustful behavior." (AN196)

A-3. BASIC SKILLS TRAINING

TOWARD A MORE LITERATE WORKFORCE

by Donald J. Ford

Illiteracy is not a new problem, but it is receiving widespread attention. This is partly due to the growth of illiteracy in the past two decades. Much of the blame for the increase in the United States can be traced to the decline of public education. Our society's tendency to favor images over words and numbers also contributes to the problem.

- Experts estimate that anywhere from 20 million to 80 million American adults are functionally illiterate, depending on how one defines the term. Millions more Americans, perhaps as many as half of the adult workforce, do not read, write, or compute well enough to perform their jobs satisfactorily.
- A second reason for the growing interest in workplace literacy is the changing nature of work. Many production workers of the past were required only to follow instructions and perform specialized, rote tasks. Workers today must apply the problem-solving, interpersonal, and statistical reasoning skills that were once asked only of the college-educated.

As more companies foster team environments and require employees to accept responsibility for the quality of their work, they are raising the required level of job literacy to unprecedented heights and exposing a variety of literacy-related work problems.

Three Forms of Literacy

To understand the growing literacy problem in America, it is important to differentiate among several forms of literacy.

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The traditional view of literacy focuses on the ability to read and write in an academic setting. An academically literate person can use a broad range of communication and computation skills to confront life's challenges. Such a level of literacy today generally presupposes a college education.

A second view of literacy that has gained popularity is called functional literacy. This refers to the ability to comprehend and use information that people need to participate effectively in society, such as the ability to open and manage a checking account at a bank. Functional literacy is less demanding than academic literacy, because it requires comprehension of a more limited set of information.

Recently, a third form of literacy has emerged: workplace literacy. This encompasses the basic communication and computation skills required to successfully perform the day-to-day operations of a job. An employee demonstrates workplace literacy when he or she reads and follows instructions contained in a manufacturing process sheet to assemble a product. This is the form of literacy that employers are most concerned about, because of its direct connection to work, to quality, and to job performance.

A Systematic Approach

Workplace illiteracy is not always obvious. Many illiterate employees become skillful at hiding their problems by becoming keen observers and mimicking the behaviors they see around them. Fearful of the consequences, they are loath to admit they can't read, write, or compute. So, many companies are unaware of literacy problems among their workers.

Managers may misinterpret illiteracy as a motivation problem ("she doesn't want to work"), or a technical problem ("he doesn't know how to do his job"), when the root cause that is preventing an employee from performing a job may be poor basic skills.

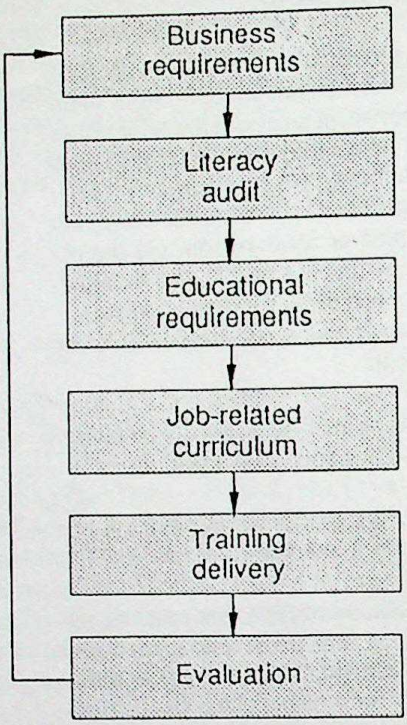
Some of the potential signs of illiteracy:

- An influx of new immigrants into the workforce,
- Declines in the quality of products or services,
- Unsuccessful implementation of new technologies, and
- Increases in accidents and safety problems.

If a company is experiencing one or more of those factors, chances are good that illiteracy is a problem in the workplace.

As companies awaken to their own workplace literacy problems, they sometimes rush out and hire consultants or teachers who provide them with off-the-shelf academic or functional literacy programs. Most of these companies wind up disappointed when nothing changes. Every employee should be encouraged to achieve functional literacy, but this alone will not solve work-related literacy problems, because of the specialized technical vocabulary and processes used in the workplace today.

Workplace Literacy Model



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To avoid disappointment, it is important to assess and analyze the problems that workplace illiteracy is causing and to design a training program that uses workplace materials and processes as the basis of the curriculum. A company can realize immediate payoffs when employees learn the language and basic skills needed to perform their jobs. Once they have mastered that limited set of literacy skills, they can be referred to adult schools or community colleges to gain functional and academic literacy skills.

The figure shows a model for workplace literacy programs. This model, based on the experience of Educational Data Systems in Dearborn, Michigan, includes six key steps:

- Determine the business requirements for a literacy program.
- Conduct a literacy audit of the jobs to be included in the program.
- Determine the educational requirements by comparing the current skills of workers with the skills necessary to their jobs.
- Develop a job-related (contextual) curriculum based on the materials and skills used on the job.
- Deliver the training program to workers, using on-site classes, computers, video, on-the-job training, or other alternatives.

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- Evaluate the training to determine if job performance has improved and if the business requirements have been met.

Companies that follow this model should be able to ffect employee performance quickly and to alleviate the ost pressing literacy problems in the workplace. The odel can help them avoid wasting time and money on focused academic literacy programs that cannot prop- y address workplace literacy problems.

esources for Workplace Literacy

Perhaps no other area of training is as ideally suited to siness/education partnerships as is literacy. Adult hools, community colleges, and universities have been the forefront of the fight against illiteracy for decades. ey have much to offer the business world. And sinesses, while newer to the literacy movement, can lp educational institutions understand the issue of workplace literacy. Businesses have the resources and captive audience to extend literacy education far beyond its traditional boundaries in public schools and libraries. For them the key to a successful partnership is locating educational partners who have the flexibility and business acumen to design effective workplace literacy programs.

Sources of literacy training abound all over the United States. Local adult schools (usually part of a public school district) and community colleges are a good place to begin. Some four-year colleges and universities offer literacy services. In some areas of the country, state departments of education fund literacy training through local schools. Public libraries are often active in literacy education.

If the public sector does not offer literacy programs in your area, look to private-sector literacy firms and consultants who specialize in literacy. Some offer programs via computer, video, television, and other media.

THE MAGNAVOX EXPERIENCE

by Donald J. Ford

A few years ago, Magnavox Electronic Systems Comny began to observe literacy problems among its 250 urly employees. (The company is Magnavox's West ast division, a high-tech manufacturer of satellite mmunications and navigation equipment located in rrance, California.)

One of the reasons behind the literacy deficiency was workforce influx of immigrants from Latin America d Asia, many of whom had poor English-speaking ills. The number of immigrants gradually grew to out two-thirds of the hourly workforce.

The polyglot work environment began to take a toll on mpany communications. People never seemed to read emos, meeting announcements failed to assemble people the right place at the right time, and misunderstandings out work assignments became chronic. Even more ious, scrap and rework costs jumped—a clear signal at employees were making too many errors in their k.

When the company unsuccessfully tried to implement istical process control to improve product quality and educe inspection time, management finally got the mes- e. Many of the employees lacked the basic math and reading skills needed to understand and implement the program.

At this point, the manufacturing division called on the D department for help. After initial discussions, agnavox created a pilot basic skills assessment pro- n to determine the extent of illiteracy in the workforce. Magnavox teamed up with El Camino College, a community college that had expertise in testing and assessment.

Under the agreement, Magnavox purchased copies of Test of Adult Basic Education and administered the test to a sample of its employees. The college scored the tests and helped identify resources to help employees improve their basic skills.

One hundred and nine employees volunteered to take the test. They represented a cross-section of the manufacturing workforce, from entry-level unskilled assemblers to test technicians and supervisors with college educations. Those tested, on average, read at the equivalent of an eighth-grade level. Math ability averaged at the seventh-grade level.

Magnavox took a sample of work-related materials, including manufacturing process instructions, engineering change notices, routing cards, charts, and blueprints, and analyzed them to determine the grade levels at which they were written.

For determining reading levels, we used the Fry Readability Formula and the Department of Defense's Readability Formula. Both estimate the reading grade level of materials based on the complexity of vocabulary and sentence structure. We concluded that employees needed to read at an eighth-grade level to comprehend our workplace documents.

For math, we used the experience of other companies in our industry to estimate that people needed to comprehend mathematics at a sixth-grade level to understand our workplace documentation.

Comparing these workplace literacy requirements to the actual skill levels of employees in our sample, we were able to determine the extent of our skills gap. Although average test scores were at or above the minimum, further analysis by job function revealed significant areas of concern.

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When we excluded salaried employees from the data, we found that hourly employees had, on average, seventh-grade reading levels and sixth-grade math levels. Among entry-level assemblers, average reading levels were only at a fourth-grade level, well below the level needed to read workplace documentation. We concluded that 52 percent of our hourly workers were functionally illiterate in reading and 36 percent were illiterate in basic math.

These data were the turning point in convincing management to pursue a workplace literacy training program.

Implementing a Literacy Program

Once the need for workplace literacy had been established, attention turned to implementing a successful training program. We considered delivery options such as private literacy firms, public adult schools and community colleges, computer-based literacy training, and federal funding.

We chose to use a federal funding program that was available through the Carl D. Perkins Vocational Education Act, which provides grants to states for adult training programs. The California State Department of Education has created a model program that teams private industry with local public schools.

Through the program, private employers pay nothing for the training but are required to finance a literacy audit to ensure that the program addresses workplace literacy issues. In return, employers receive up to $13,000 in literacy training funds, channeled through the adult school partner.

The literacy audit, conducted by Educational Data Systems, based in Dearborn, Michigan, confirmed many of the literacy problems we had already uncovered through the assessment program. It went a step further by identifying the exact skills in reading, writing, listening, speaking, and arithmetic that employees actually needed in order to comprehend work materials and documents. The analysis identified the following seven major tasks required of production workers:

- Use work instructions.
- Complete forms.
- Complete mechanical assembly.
- Complete electrical assembly.
- Solder electrical components.
- Perform work as a member of a team.
- Use statistical process control.

An analysis of each of the seven tasks provided a detailed breakdown of literacy-related work activities. For example, "use work instructions" was subdivided into three tasks:

- Read "manufacturing processes" (assembly instructions).
- Read the Workmanship Manual (quality assurance standards).
- Describe work instructions.

The task analysis formed the basis for the instructional design. Each task was subdivided into work activities; learning goals were sorted according to their difficulty level. For example, reading the manufacturing processes required 12 enabling objectives, such as understanding technical terms and abbreviations and following a written sequence of events.

We created a management steering committee to guide and oversee the literacy program. The steering committee was composed of the vice president of operations and the managers of manufacturing, quality control, quality improvement, and HRD.

The committee served as liaison to Torrance Adult School, our public education partner. It interviewed and hired an instructor from a pool of applicants provided by the school and helped the instructor develop a work-related curriculum of the manuals and documents employees were expected to use to do their jobs.

Marketing the Literacy Program

The steering committee played an important role in marketing the program to hourly employees. We recognized at the outset that this training would require skillful marketing; employees were reluctant to come forward on their own and seek help.

One strategy was to avoid calling the program a literacy class, because the term "literacy" carries negative connotations. Instead, we called the program, "Process Improvement and Communications," or PIC.

We circulated a survey in English, Spanish, and Chinese to all hourly employees. The survey briefly described the PIC classes and asked employees to choose one of four class sessions. To encourage attendance, the company donated two hours a week of work time to the program and required employees to attend an additional two hours a week on their own before or after work.

Once the initial survey results became available, the vice president of operations scheduled a series of informational meetings for all hourly employees to explain the program in more detail and solicit additional enrollments. These meetings, held on company time, helped double the enrollment to 60 employees.

During the first week of classes, employees took the Test of Adult Basic Education. The results established a baseline so that progress during the course could be measured. The results were used as a diagnostic tool to ensure that students were placed in the proper class levels.

The four PIC sessions included two English as a Second Language (ESL) classes for foreign-born employees, a native-language literacy class for English-speaking employees, and an advanced class in math and communications skills.

The 18-week program was divided into three 6-week terms. We wanted employees to remain for the entire 18 weeks, but recognized that such a long commitment might discourage participation. By offering shorter terms employees could enroll, try the classes, and finish courses without making lengthy commitments. Half of the origi-

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nal enrollers completed all three terms. The rest completed one or two terms.

Evaluating the Literacy Program

State and federal funding groups required us to evaluate the project. We evaluated four levels:

- Reactions of employees—measured by postcourse surveys,
- Levels of employee learning— measured by pre- and post-test results,
- Changes in behavior of employees—measured by their daily actual efficiency ratings, based on daily work output, and
- Results in productivity—measured in dollars saved from reduced scrap and rework costs.

The literacy training project produced positive outcomes. First, 109 employees were tested in English and math establishing a baseline of literacy. Of the 60 that enrolled in PIC classes, 30 completed an 18-week, 72-hour literacy program in both English and math that used actual workplace materials as the basis of the curriculum.

Reading skills for the 30 students who completed the program increased by an average of 1.1 grade levels, from 7.3 to 8.4, a 15 percent improvement. Mathematical skills improved an average of 1.4 grade levels, from 6.8 to 8.2, a 21 percent gain.

Job performance, the ultimate measure of the program's success, has shown steady improvement from the beginning of the program.

The average actual efficiency of the 30 employees who completed the program was tracked over a nine-month period. Before the class, the average monthly efficiency of students was 18 percent of the ideal efficiency for their positions. In the four months since the program started, the average monthly efficiency of students rose to 26 percent, a 45 percent increase in employee productivity that can be directly attributed to the program.

Additionally, scrap and rework rates for the company as a whole declined dramatically during the course of the workplace literacy program. As of September 1991, the company had saved $262,000 on scrap costs over 1990, a 35 percent reduction. It saved $74,000 on rework costs, a 25 percent decline.

Many factors contributed to these savings: it is impossible to isolate exactly how much Magnavox could attribute to the workplace literacy training. But Magnavox estimates that the training may have saved about $2,300 a month in 1991 in reduced scrap and rework.

Suggestions for Improvement

Despite its success, we can improve the program in two ways. First, the dropout rate was higher than we would have liked. We attribute this to the requirement that employees attend half of each class on their own time. This restricted the initial sign-up to about 22 percent of the eligible workforce and was the main factor cited by the students who dropped out. To ensure maximum participation, literacy programs should be entirely on company time.

Second, the curriculum development process was more time-consuming and difficult than we anticipated. Instead of taking two weeks to develop a customized, work-related curriculum, as originally envisioned, the instructor and the steering committee worked on the curriculum throughout the 18-week course. Many hours went into this effort, taxing everyone's schedule. It would be better to allow more time and budget for curriculum development, because this is a key element to the success of the program.

TDY 93/94 CASE STUDY: TELEPHONE SKILLS TRAINING AT IBM

Source: "Answering the Call of 'Tailored Training,'" by Monica Estabrook and Norman F. Foy, *TRAINING Magazine*, October 1992, pp. 85-88

When IBM CEOs faced numerous complaints about employees' telephone skills, they knew they must take the problem seriously and not simply write it off as a simple training problem. This article reports on a study the company undertook to discover the extent of the telephone skills needed and the steps they took to rectify the problem. Two categories of skill deficiencies were identified: (1) not using the many features of the telephone and of voice message systems, and (2) not treating the caller with a high level of professional courtesy. Employees were divided into 2 groups, according to whether they were intensive or casual users of the phone system, and separate training programs were devised for each. To support the training effort, other measures were taken: (1) the general manager of the company's US organization made telephone effectiveness one of his 5 key measures for the year, (2) a humorous film, "It's Your Call" featuring Bob Newhart, was circulated, and (3) random calls were made by the telephone project office to determine the effectiveness of the training. Since implementation of the project, telephone use has not been perfected, but dramatic improvements have been made. (AN197)

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COMBATTING ADULT ILLITERACY

Source: "Consequences of Adult Illiteracy Reach Far into the Marketplace," by Annette T. Rabin, *Occupational Health & Safety*, June 1992, pp. 36-42

With approximately 20% of US adults and 75% of the unemployed classified as functionally illiterate, the Business Council for Effective Literacy estimates that illiteracy costs the US at least $6 billion annually in welfare and unemployment programs. This article looks at some of the causes of adult illiteracy, first explaining the ninth grade norm "bell-curve" which is representative of adult reading abilities. Next, the social roots of illiteracy are examined: (1) the fact that 20% of American children live at or below the poverty level, have poor nutrition and lack any encouragement toward academic excellence, (2) the differences in funding between urban and suburban schools, and (3) undetected and untreated learning disabilities. The author offers 3 basic strategies for tactfully broaching basic skills training with employees: (1) presenting the sessions as part of the regular training program, (2) including supervisory personnel in the planning so that there is no implication that jobs are in jeopardy, and (3) holding sessions in attractive, permanent settings which do not resemble classrooms. The author concludes that there is no one solution to adult illiteracy, although she stresses the importance of pressuring legislators to upgrade education at all levels. (AN198)

BASIC SKILLS TRAINING

Source: "When Basic Skills Become Survival Skills," by George Kimmerling, *Technical & Skills Training*, April 1992, pp. 8-11

Given the proportion of U.S. workers who lack even the literacy skills needed to perform their jobs, chances are that someone in every workplace needs remedial basic training, says the author. He examines the alarming statistics concerning reading deficiencies, as well as the lack of higher-order thinking skills. Furthermore, he insists, companies should conduct literacy analyses of their employees before embarking on any new skills or technical training. Trainers who plan to conduct basic skills training also need a conceptual shift to encompass: (1) a recognition of cognitive skills and their impact on a given function and (2) a realization of the psychological barriers that adult trainees can bring to remedial training. The author discusses a joint union-management effort among AT&T, the Communications Workers of America, and the International Brotherhood of Electrical Workers that helped build skills and changed the nature of jobs in both manufacturing and customer service. He also notes the basic skills programs which Peavey Electronics has developed in partnership with its local community college and which have resulted in significant reductions in production defects. Determining the best method for delivering basic skills training is still a trial-and-error process, the author concludes, though group interaction and evaluation are vital ingredients in all programs. (AN199)

A WORKPLACE LITERACY PROGRAM

Source: "Report from the Trenches: Research on Workplace Literacy Programs," by Edward E. Gordon, et al., *MOSAIC Research Notes on Literacy*, October 1992, pp. 1-4

In response to the basic skills crisis facing American industry, these authors have researched a tutorial-based workforce education program for undereducated plant workers, office support staff, and business managers. The result of their research, the *Individualized Instructional Program*, is directed at modifying student attention, expectancies, and memory. Key aspects of this program are outlined here:

- Assessment of the learning strengths and problems of the trainees.
- Use of relevant adult training materials.
- Use of social learning techniques to provide the adult learner with the opportunity to observe and imitate the successful learning behaviors of others.
- Constant feedback on trainee progress.
- Evaluation through a variety of techniques.
- Use of multiple training approaches for greater effectiveness, including: (1) small group tutorials, (2) cross-training, (3) computer-based training, (4) programmed learning materials, and (5) traditional classroom instruction. (AN200)

TRAINING IN ENGLISH AS A SECOND LANGUAGE

Source: "Why Don't They Speak English?" by P. Faith Hayflich and Anne E. Lomperis, *TRAINING Magazine*, October 1992, pp. 75-78

The wave of immigrants that washed over the US during the last decade has created a communication gap in many companies, these authors say, and they suggest targeted training in English as a second language (ESL) as a means of bridging that gap. They give several suggestions for conducting ESL training with targeted company populations, first weighing the objectives for

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ESL training against costs and benefits, then analyzing the language skills and cultural knowledge employees need to perform their jobs, and then taking into account:

- The desired mode of communication,
- Actual language samples from the interaction,
- The purposes of the language used,
- The people involved in the interaction,
- The role of each person involved,
- Cultural issues that may create misunderstandings,
- The level of English needed to perform the task effectively,
- The frequency and complexity of interactions, and
- The nature of the interaction.

The author describes the ESL experiences of a South Florida hotel chain and Hewlett-Packard to illustrate the diversity of needs in this training area. (AN201)

TRAINING IN PROBLEM-SOLVING SKILLS

Source: "Training Problem-Solving Skills—Part 2: Design Guidelines Based on Cognitive Psychology," by David Taylor and Ruth Clark, *Performance & Instruction*, April 1992, pp. 33-38

What makes a novice into an expert? The authors see the answer to engineering this transformation as 2-fold: (a) capturing the deep structures or mental models that experts use during problem-solving, and then (b) applying instructional interventions to help novices acquire and later retrieve these schema. The authors first describe a protocol analysis of experts solving a problem to extract their mental models, and then the authors give an analysis of novices working on the same problem to discover common mistakes. They suggest 3 approaches to teaching these problem-solving approaches to novices:

- **Helping novices acquire mental models** can be accomplished with examples from many different contexts, along with explicit statements of the principles involved, in order to encourage formation of deep structures. The authors see well-designed computer simulations as a way to do this.
- **Problem representation** can be directly trained by teaching novices to use visual or diagrammatic representations, to distinguish between relevant and irrelevant problem data, to categorize problems based on deep structures, and to restate the problem in a way that maps onto its deep structure.
- **Automating prerequisite skills** can come from the use of drill and practice techniques, which can often be delivered through a computer. (AN202)

VISUAL LITERACY

Source: "Visual Learning," by Diane E. Kirrane, *Training & Development*, September 1992, pp. 58-63

We have an increasingly visual culture, according to this author. The manipulation of images is moving from specialized companies to nearly all workplaces. In fact, visual learning may someday displace print learning, and even now visual images are altering how we think and learn—starting with a child's television viewing before he or she enters school. The author sees a great need for the development of visual literacy so that we can analyze images rather than being overwhelmed by them. "Training for visual literacy should begin at least by school age and continue in college or on the job," she says. We need training (1) in computer graphics, (2) in the basics of how advertisements work on us, (3) in how to interpret a picture for explicit and implicit messages, and (4) in how to produce the most efficient image to communicate a message. New tools and techniques of visual communication, such as scientific visualization, affect skill requirements on the job, she notes, adding that research on imaging technologies and visual learning is booming. (AN203A)

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A-4. COMPUTER SKILLS TRAINING

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CASE STUDY: PEER TRAINING FOR COMPUTER SKILLS AT LUTHERAN BROTHERHOOD

Source: "Peer Training Yields Speedy Results," by Victoria Obenshain, *Personnel Journal*, April 1992, pp. 107-110

When Lutheran Brotherhood, a Minneapolis-based financial services company, decided to replace its laptop computers with more up-to-date models, they turned to peer training to instruct their 1,500 employees on the new technology. This article looks at this peer training and how it accomplished the company's goals in just 5 weeks. In support of the training effort and to create excitement and anticipation for the new technology, an internal marketing plan was developed including: (1) frequent correspondence with district representatives about their upcoming training, (2) news articles in company publications to help the sales force visualize themselves successfully using the new laptops, and (3) positive word-of-mouth generated by the deployment team and the field test group. MTV-style videos of the company's executives lip-synching to original music written for the program was well received by the employees. Testimonials from sales representatives who participated in the pilot program were also presented in support of the new computers. A training task force prepared the 110-member deployment team, which in turn launched training sessions for the rest of the company at 8 sites throughout the country. Trainers were divided into 3-person teams, with one person demonstrating the computer, while the other 2 served as roving experts, wandering around the classroom and answering individual questions. The numerous classrooms at each site also had access to two technical experts who could be summoned by walkie-talkie whenever they were needed. Company officers are pleased with the program's success—in the 4 months following the program, Lutheran Brotherhood reports that sales increased 25% over the same time period the year before. (AN203)

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TDY 93/94 CASE STUDY: OVERCOMING COMPUTERPHOBIA AT CARL KARCHER ENTERPRISES

Source: "How One Company Successfully Trained 2,400 Resistant Novices Using Customized CBTs," *The Microcomputer Trainer*, March 1992, pp. 1-9

In 1988, Carl Karcher Enterprises, Inc. (CKE), the parent company of Carl's Jr. Restaurants, realized that significant savings could be achieved by computerizing their managers' labor schedules. Of the targeted users, however, 89% had never touched a computer, and many spoke English as a second language—factors which led CKE to turn to customized CBT, rather than prepackaged programs for this training task. The trainers immediately faced strong resistance from the computer-novice trainees who paradoxically felt very competent with their manual scheduling systems but incompetent in their ability to learn the same thing on a computer. To cope with this paradox, with trainee fear of the keyboard, and with the embarrassment felt by older managers, the design team made several important decisions:

- To market the PC installation and application training process to users by means of a video to help overcome the manager-trainees' perception of the installation process as an invasion of their domain,
- To customize the introduction to PCs,
- To keep each tutorial short, building in frequent rewards, and
- To present tutorials with a "slow reveal" technique.

The developers piloted the program through a Usability Lab, which studied a cross-section of managers in a search for program difficulties from the participant point of view. A Help Desk was also set up so that users could phone in questions about problems they were facing. Several sample screens from the program append the article. (AN204)

TDY 93/94 IN BRIEF

COMPETENCY-BASED COMPUTER SKILLS TRAINING

Source: "Relying on Competency-Based Training for Computer-Based Systems," by James A. Tompkins and Frank E. Daly, *Industrial Engineering*, May 1992, pp. 46, 48, 51

Most companies have had major problems with the implementation of computer systems training, these authors report. In the majority of cases, the problem lies, not with the user, but with the training the user has received. Typically, after 6 months of classes and follow-up, only 1% of employees have a total knowledge of the system. The authors suggest that competency-based training can alleviate this situation. They describe the 6 steps in this training process: (1) job analysis, (2) determination of skill requirements, (3) setting of evaluation criteria, (4) competency testing, (5) identification of training needs, and (6) focused training. Evaluation is the key in pinpointing both group and individual weaknesses and also the quality of the training administered. The authors give an example of one (unnamed) manufacturer's experiences with competency-based training, and they briefly discuss the concept of pay-for-skills. The authors conclude by turning to the benefits of competency-based training, citing improvements in: work flexibility, workforce competency, productivity, customer service, organizational commitment, decision-making, turnover and absenteeism, workforce participation, and workforce self-esteem. (AN205)

AUTHORIZED COMPUTER TRAINING VENDORS

Source: "Reducing Risk with Authorized Training Vendors," by Larry Stevens, *Data Training*, January-February 1992, pp. 14-19

An increasing number of software companies are placing their imprimatur on selected or "authorized" training companies, reports the author. This has several

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ntages for those responsible for selecting training iders. For one thing, the trainer has been screened for ast a minimal level of competence, and the client can t on some consistency in the training provided. ndly, the software manufacturer provides course rial which the training firm could not afford to lop itself. And finally, the trainer has an inside track w releases and support from the software company. ever, there are times when a company may want to a non-authorized trainer: (a) when the company s extensive customization of the training course, hen it wants suggestions on different products, (c) it has the resources to develop internal training s, and (d) when the price for a non-authorized ng firm is substantially lower. (AN206)

KTOP PUBLISHING TRAINING

ce: "The ABCs of Training," by James Bell, ness Publishing, March 1992, pp. 18-24

tting aside advertising hype, learning desktop pub- g is not easy, says the author. He describes the type ning various people might need: computer opera- lesigners, editors and writers, and managers. To ne decide on the type of training needed, he offers stions: (a) What level of skill do you really need? w soon do you need this level of skill? and (c) How money do you want to invest in training? An panying chart aids in the selection of training aches based on these questions. Next, the author discusses the pros and cons of the various training ces:

Self-study materials. Pros: low cost, conve- nient, portable, and non-threatening. The chief drawback is the need for self-motivation. He discusses books, audiotape, and videotape, and ne notes some of the publishers who carry these naterials.

Live training. Pros: can be the most effective and enable employees to reach higher skill evels. Con: the most expensive. The author explains when to use seminars, generic classroom training, customized classroom training, and on-on-one consulting.

The article concludes with suggestions for choosing a trainer and 6 tips for success. A sidebar gives sources for training materials and programs. (AN207)

KEYBOARD TRAINING

Source: "Who Needs Keyboard Training?" by Larry Stevens, *Data Training*, November-December 1992, pp. 17-21

Typically, when new computer systems are introduced, users are trained in how to work with the software, but they have to find their own way to facility with the keyboard. Now, however, this author reports that more and more companies are finding that improving keyboard skills is a relatively easy and effective way to raise computer productivity. This article discusses several techniques that have been found to be successful in keyboard training. Farmers Insurance Group began by dividing workers into categories based on the amount of time they spend with the computer daily, thus enabling the company to tailor training to the various needs within the company. Using *Keysoft*, a computer-based keyboard training system, Farmers improved the productivity of their most infrequent workers by 51% over a 6-month period, and reduced their errors by 90%. The productivity of their most frequent users went up 33%, with errors decreasing by 82%. The company estimates a savings of $2.5 million annually because of this training. The advantages of computer-based training programs for teaching keyboard skills are discussed here, as is the importance of using learning games to break tension, while honing skills. Keyboarding can also be learned at community colleges and vocational schools, the author notes, since most training vendors do not offer training in keyboarding. He touches on video training, and then he concludes with a discussion of the *Judd Test* by Mentri and its ability to evaluate keyboard training success. (AN208)

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B. MANAGEMENT DEVELOPMENT

B-1. MANAGEMENT DEVELOPMENT PROGRAMS AND PRACTICES

EXECUTIVE DEVELOPMENT AS A BUSINESS STRATEGY

by Morgan W. McCall, Jr.

The only legitimate reason to put in place an executive development program is that it is integral to the business strategy. Any other reason will result, at best, in a series of interesting training programs tangentially related to the business or, at worst, in a variety of expensive activities conveying irrelevant or contradictory messages. The only way to sustain the necessary commitment of time, passion, and resources to executive development is through a bedrock belief that leadership is a critical source of competitive advantage and that leadership can be developed through systematic attention to development.

One of the general truths of business strategy is that there can be only a few real priorities; if not, everyone becomes bogged down in a confusing array of possibilities. A second truth is that those priorities must be maintained with some consistency if they are to be taken seriously.

In this regard, executive development begins with two serious disadvantages. First, no corporation I've ever worked with has placed developing people as its first priority; second, it's difficult to make a good case that development should be a first priority. With no shot at top priority, development must still compete with other compelling issues even to make the priority list.

From global marketing to technological innovation to total quality, legitimate sources of competitive advantage clamor for berths on the priority list. And should development make the list against the odds, it is still possible that higher-ranked priorities will take precedence over lower-ranked development activities. If legitimate squabbling over the relative priority of development weren't enough, the perception of executive development as a series of training programs, educational activities, and succession systems run by the human resources staff can be the final blow. Development defined in this way is overhead, and overhead is the first victim of the business cycle.

I propose that development of leadership talent must be one of the top five corporate priorities, that developing talent requires just as intensive a commitment of organizational effort as any other top priority, and that training programs and human resource systems (though important) are not at the heart of the process.

Traditional sources of competitive advantage are losing their edge. Control over raw materials, technology, and capital, which used to provide strategic leverage for US corporations, is increasingly difficult in the face of global competition. Leadership, on the other hand, is a potentially renewable resource that is not easily copied or stolen by other corporations. Further, it might be argued that it is only through effective leadership that a firm can identify and take advantage of other sources of potential competitive advantage, thus staying ahead of competitors in a rapidly changing environment.

The obvious central role of effective leadership would still not make developing it a top priority if effective leaders were easily replaceable as well as available. In accepting this premise, most strategic planning models ignore leadership altogether, leaving the people who concoct and conduct the strategy out of the equation. Available evidence suggests that far from being interchangeable and abundant, effective leaders are relatively rare; in addition, hiring them from outside the organization at senior levels is risky. Knowledge of the business and knowledge of the people involved in the business are crucial components of effective leadership, and people who successfully lead a particular organization in a specific industry usually have spent significant time in it.

Organizational Darwinism

Even if leaders were pivotal to effective use of sources of competitive advantage and even if leaders were not easily interchangeable in the external market, leadership development still might not be a worthy priority. If leadership qualities were innate and if people with those abilities automatically rose to the top, expending resources on developing leaders would not make sense. However, both assumptions are widely believed by ex-

Copyright © 1992 by Faulkner & Gray Publishers, New York, NY. From *Journal of Business Strategy*, January-February 1992 pp. 25-31. Reprinted by permission. All rights reserved. Morgan W. McCall, Jr., is a professor of clinical management and organization and a senior research scientist with the Center for Effective Organizations at the University of Southern California.

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ecutives, many of whom attribute their own success to their personal qualities and to their success in the face of tough assignments. As compelling as belief in organizational Darwinism can be, there is ample evidence that leadership skills are learned.

Negotiating trade agreements with China, designing a quality program, or motivating a demoralized group are but a few examples of skills unlikely to have genetic origins. Even learning skeptics might pause before accepting a Darwinian process that produces an end product that has evolved to fit a particular environment. Organizations and their environments are changing too fast for Darwinian evolution; having survived the trials of the 1960s and 1970s hardly ensures being fittest for the world at the turn of the century.

Even the most hard-bitten executive will admit that things other than cream rise in the organization and that there is room for improving whatever process produces the leadership of the organization. In fact, a compelling argument can be made that natural organizational forces act to produce middle and even senior managers who are parochial and possess a relatively narrow range of leadership skills. Acting rationally, organizations plan leadership succession on the basis of demonstrated skill. Therefore, a typical replacement table will list candidates who are "ready now," "ready in two years," etc., with the explicit goal of having backup managers who are fully qualified for the next job.

As sensible as this may be, development of new skills requires that a person not already possess the skills required for the job (or, in other words, that the person be stretched). Ironically, to the extent that so-called rational succession decisions are made, leaders are simultaneously rewarded for what they already know how to do and denied the opportunity to develop new skills that might serve them well. It is only because the perfect candidate is hardly ever available that opportunities for growth occur.

A logical conclusion is that the development and implementation of strategic choice (whatever the particular source of advantage might be) depends on effective leadership; that effective leaders are not easily found, replaced, or substituted; and that effective leaders do not necessarily emerge naturally. It therefore follows that a corporation must include in its top priorities the development of leadership talent and that it is irrational to expect that without leadership, other priorities can be achieved and sustained.

But how is it possible to choose among multitudes of possible priorities like total quality, winning the Baldrige award, globalization, technological innovation, service to the customer, managing cultural diversity, or any of the other panaceas that promise restoration of competitiveness and positioning for the new order of the 20th century? Each has a compelling logic, and some have a potential link to the immediate bottom line. Unfortunately for many firms, the pivotal importance of having a large reservoir of leadership talent is not apparent until a shortage of it precipitates a major crisis.

Such crises sometimes occur in cycles of rapid growth when an organization begins to miss opportunities because it lacks sufficient leadership talent to exploit them. They can also occur after dramatic downsizing, when the new organization emerges only to discover that it lacks the leaders needed to take it in a new direction. Whatever the source of the realization, there is no quick fix to a leadership problem. The evidence is that it takes 10 to 20 years to develop general managerial skills.[1] Although people can be promoted faster than that, they can't learn the skills any faster. For this reason, organizations that consider leadership development a priority and maintain the necessary developmental infrastructure will have a long-term business advantage.

If leadership development were just a human resources program, its effectiveness could be measured by the thickness of a company's training catalog. Nothing could be more misleading, however. Firms that do a good job of developing managerial talent focus on a broad range of activities (including training) but emphasize on-the-job experience as the primary vehicle for development.[2]

Paradoxically, even executives who think of executive development in terms of human resource programs readily accept that they learned most of their managerial skills on the job. They also readily translate that personal experience into a model for others, as expressed by one executive who observed:

> Of course we believe in developing leadership. When I find someone I think has some talent, I put them in the toughest assignment I can find to develop them. If they do well, I know I made the right choice.

This straightforward description of leadership development underscores the four fundamental issues that must be addressed for any developmental program to work:

- "When I find someone I think has some talent" raises the question of what potential means, how to identify it, and who should assess it. What does it mean to have "some talent"?
- "The toughest assignment I can find" raises questions about what kinds of experiences can teach what kinds of things. Is toughness the key attribute? What does a tough assignment teach?
- "I put them in" suggests that the primary vehicle for matching talent to a developmental opportunity is the immediate manager, raising questions about how an organization can best manage its strategic human assets. Is the immediate

[1] J. P. Kotter, *The General Managers* (New York: Free Press, 1982).
[2] J. P. Kotter, *The Leadership Factor* (New York: Free Press, 1988).

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TDY 93/94 CASE STUDY: CREATING A MANAGEMENT DEVELOPMENT PROCESS

Source: "The Search for Executive Skills," by Martin E. Smith, *Training & Development*, September 1992, pp. 88-95

"What skills do executives need to lead their organizations?" asks the author. New England Telephone decided to research the answer to this question in 1985 following the break-up of the Bell System, when the company felt the need to create an executive development program to meet the needs of middle and upper management. This article describes New England Telephone's research and the design and implementation of the resulting program. The author begins by explaining the various phases of the process:

- The project team used an empirical study to develop a model of ideal executive performance and competencies. The components of the model were: conditions, outputs, criteria, competencies, and behavioral indicators. The team then expanded and revised the model in various ways, including asking 100 exemplary managers to identify the most critical competencies.
- The second phase was as assessment of the current population of executives and middle managers against the model of ideal performance. Strengths and needs were identified through a questionnaire.
- In the third phase, the project team investigated what the target population wanted in an executive development process. Brainstorming exercises and interviews contributed to this phase.
- The design of the process was the next step. The project team decided that the most successful approach would require executives to take the initiative to manage their own development. Also, the company chose to create an ongoing process rather than a program. The process was named the management development system (MDS), and it consisted of 9 components, including workshops, diagnostic processes, and written material. The author describes each component in detail.
- The program implementation strategy (1) linked the MDS to the corporate business plan, (2) developed support within the company, and (3) tracked the early experiences of participants.

About 300 middle managers and executives have participated in the process since 1986. In 1990, MDS was revised based on a new study of needs. (AN209)

manager in the best position to make developmental decisions?
- Finally, "if they do well" brings up the issue of learning—notably, who is responsible for it and what, if anything, might be done to facilitate it.

These four elements, represented in Exhibit 1, constitute the backbone of a development strategy. The final outcome can be no stronger than the weakest link. If we don't know what potential means, we have no way to select people for developmental opportunities. If we don't understand the types of experiences that can teach specific lessons, we have no way of identifying the opportunities that would allow talented people to reach their potential.

If we have no mechanisms for getting people with specific developmental needs into the appropriate developmental opportunities (called agents in the exhibit), no growth can occur. And if we have no means of help a person make the most of the experiences they h (called catalysts in the exhibit), potentially we've don of this for nothing.

Each of these four elements is a domain in its o right; effectively integrating them is the core of a lea ship development strategy. This does not necessa mean developing extensive bureaucratic procedures volumes of forms. Because development is central to business strategy, responsibility for it properly reside the hands of line management. The procedures wil more useful (and more used) if they are simple, effici and effective.

Identifying Talent

The easiest thing to believe about leadership is that know it when we see it. Spotting executive or leaders

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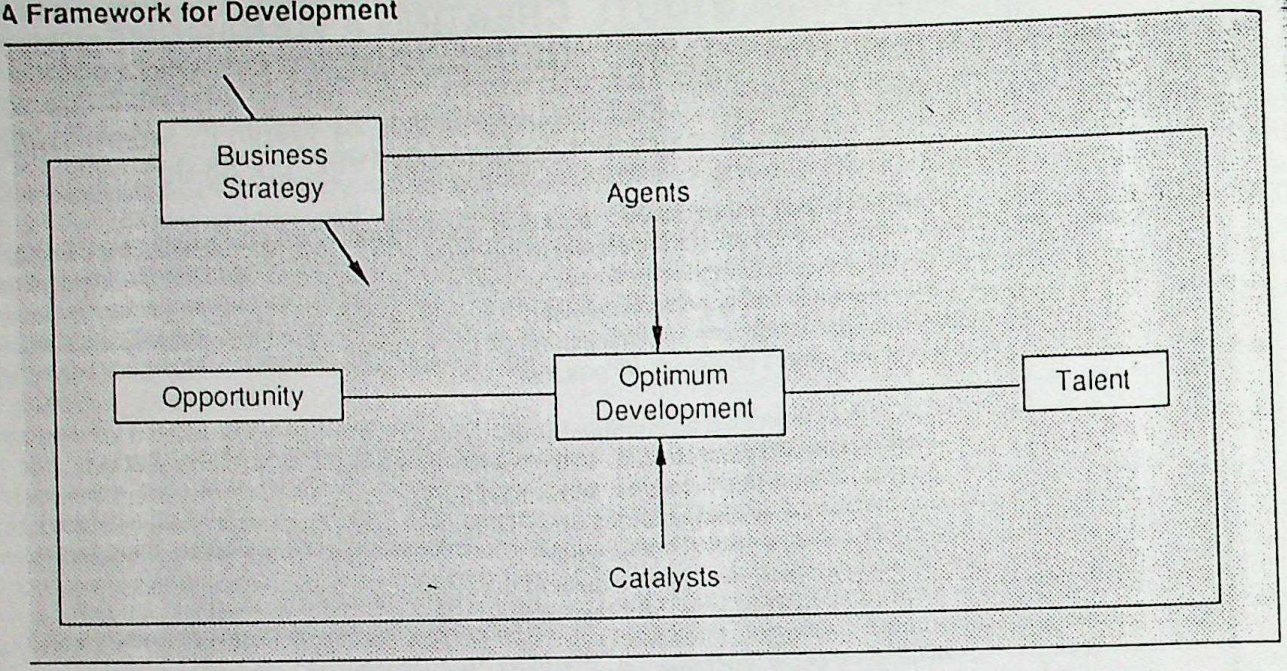
EXHIBIT 1
A Framework for Development



ent is no exception, and the illusion of omniscience rsists in the face of overwhelming evidence that we are ıwed judges. But even if we were accurate perceivers d assessors, the list of potentially important qualities ıt might lead to senior executive effectiveness is seemgly endless. From action orientation to zeal, few virtues ›uld not be handy in the executive suite.

The fact that research has begun to narrow in on the ıe qua non of leadership[3] reduces the sheer magnitude possibilities, but it also highlights a crucial feature of tential: whatever the list of qualities one might desire a leader, they are end states. That is, if one believes in velopment, the qualities represent what is to be develed rather than what already exists. In identifying tential, then, the focus must be on those abilities that uld enable someone to acquire the end-state qualities ough a series of developmental experiences. To focus the end states themselves implies an underlying belief ıt desired leadership qualities are innate—or at lease iding in a person waiting to be discovered rather than aiting development.

The suggestion, then, is that identifying talent is not ıply assessing such things as the ability to set direction, gn critical constituencies, and create and act within eptable values, because these are the qualities that cessful leaders have. Rather, development requires ntifying people who can learn to do those things, not o necessarily do them now. Instead, one might look for such things as awareness of strengths and weaknesses, ability to seek out and use feedback, recognition of limits, ability to learn from experience, a passion for learning, demonstrated growth, and related abilities. The bottom line: identifying potential means assessing progress toward meaningful end states, but it also means assessing a person's underlying ability to learn from experience.

The executive quoted earlier in this article seemed to believe that the key to a developmental assignment was its toughness. That's not far from wrong; research on developmental experiences has documented that adversity drives growth. What is also clear is that adversity comes in many forms, that all experiences are not equal (nor do they teach the same things), and that adversity is not an unqualified blessing. In short, identifying, creating, and using experience for developmental purposes is not as simple as it seems.[4]

In spite of the commonly shared belief that tough assignments are what develop leadership, the single most common tool for on-the-job development is rotation—across functions, divisions, departments, or most recently, countries. This practice is based on the assumption that learning from experience comes primarily from exposure to something new. Conversations about developmental moves almost always contain some variation on the theme of "he needs to see how they do it in marketing" or "she needs some foreign experience" or "he needs some exposure to the R&D lab."

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3. for example, W. Bennis, *On Becoming a Leader* (Reading, MA: Addison-Wesley, 1989); W. Bennis and B. Nanus, *Leaders: ıtegies for Taking Charge* (New York: Harper & Row, 1985); and J.M. Kouzes and B.Z. Posner, *The Leadership Challenge* (San ıcisco: Josey-Bass, 1987).

4. M. McCall, M.M. Lombardo, and A.M. Morrison, *The Lessons of Experience* (Lexington, MA: Lexington Books, 1988), and McCauley, "Developmental Experiences in Managerial Work," Technical Report No. 26 (Greensboro NC: Center for Creative dership, 1986).

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CASE STUDY: QUALITY-ORIENTED MANAGEMENT DEVELOPMENT AT WELCH'S

Source: "Welch's Builds Middle Management to Meet Today's Competitive Challenges," by James T. Ryan, *Employment Relations Today*, Spring 1992, pp. 17-23

Caught in the midst of an expanding product line and increased competition, Welch's Grape Juice Company has adopted "Operation Excellence" as the name for a total quality leadership initiative, says the author. He notes the new skills needed by middle managers and supervisors, and then he describes the process of developing them. The first step was a commitment to treat people as people, not as tools or commodities. Then the firm conducted a comprehensive needs analysis for supervisors and managers. A supervisory training program was begun in 1986 to include disciplinary and corrective action discussions, time management, communications, union relations, employee relations, listening skills, perceptions, and leadership skills. In addition, an annual management development review process focuses on high-potential development candidates, promotable candidates, and minorities and women—with a focus on their individual experience, performance, key strengths, development needs, the most likely next position, readiness, expressed career aspirations, and development plans for both the short term and long term. The author says a training budget of about $400 per person has been sufficient to accomplish this training program. He goes on to describe the quality training being given: statistical process control, creative problem-solving, leadership development, group dynamics, group facilitation, supervisory role revision, communication and listening skills, and technical skills. The company determined baseline employee opinion data through an Organizational Effectiveness Profile(tm) and administers the Profile over time to assess progress. Sidebars include Welch's statement of its "Vision" and "Corporate Values." (AN210)

Research has shown that it's what a person has to do, not what he or she is exposed to, that generates crucial learning. It is simply not the same to be exposed to customers as to have to deal directly with an irate customer who has just taken his business elsewhere. It is not the same to spend six months in a plant as it is to run the plant. As obvious as this seems, the single biggest waste of learning opportunities results from a failure to specify what it is that one hopes is learned from an experience—specifically, what leadership-relevant skills are potentially taught. Exposure will happen, but it is the activities that people must engage in that can teach these skills.

The bottom line for developmental opportunities is to recognize that different kinds of experiences (e.g., start-ups, turnarounds, staff assignments, and projects) have the potential to teach quite different things. The crucial development component lies in what a person must learn to do in order to succeed in the experience (i.e., what crucial challenges will stretch a given individual). In that sense, moving through the chairs or simple rotational assignments reveal little about the developmental potential of the experiences.

Matching Talent and Opportunity

Exhibit 1 uses the term *agent* to indicate that some mechanism is necessary to ensure that people identified as having the talent necessary to develop leadership skills actually get the opportunity to do so. In most cases, the most common agent in organizations is the immediate manager of the talented person. Immediate supervisors, however, are questionable judges of subordinate performance even in the current job.[5] Yet they are asked to evaluate another person's potential (not demonstrated performance) for a job the manager may never have had and then to make a decision against his or her best interest (which could result in losing a talented person by initiating a developmental move).

The second fatal flaw of using only the immediate manager as the agent to develop leadership skills is that keeping track of talented people over time is problematic. Each hand-off to a new manager is an independent event; any continuity of development over time would require an unlikely acceptance of personal responsibility or an unheard-of level of cooperation among disparate managers within the firm. More likely, development becomes a game of Russian roulette for the talented manager who progresses until he or she runs across a boss who, because of insecurity, bad judgment, or lack of interest, puts a stop to it.

To offset these inherent problems, sophisticated organizations develop systems that involve more than a single manager's judgment of potential and developmental needs and that provide for tracking talented people over time.

[5]See, for example, M. Sorcher, *Predicting Executive Success* (New York: Wiley, 1985).

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These more sophisticated agents may include succession planning systems, high potential pools overseen by a special executive development staff, or executive review committees that regularly monitor progress and development of the high-potential talent.

These mechanisms require time and commitment from line management, underlining the fact that development is primarily their responsibility. In the best-run systems, the executive resources staff guides and documents the process, serving as a resource to the line managers responsible for achieving the desired results.

Crucial Catalysts

The best practice in executive development pays careful attention to assessing potential, systematically uses experience for developmental purposes, and employs effective agents to track and champion the process of getting talented people into the developmental loop and providing them with the opportunities they need. Doing this much sets an organization apart from most others and might be sufficient if learning from experience were automatic. Unfortunately, it is not.

Many people have experiences but learn nothing or learn the wrong things. A developmentally oriented firm doesn't just throw talented people into fires; it commits itself to doing whatever it can to help them succeed in learning from the experiences they have. Whether a person is successful in performance terms may be unrelated to his or her success in growth terms. Helping people learn requires knowing what it is that they can learn in a given experience, then setting meaningful developmental goals, establishing accountability for attaining them, and providing necessary resources.

These activities are illustrated in Exhibit 1 by the term *catalysts*, used in the sense that they precipitate or increase the rate of reaction. In this case, the goal is to produce useful learning from a mixture of talent and opportunity.

The most frequently missing ingredients in corporate development activities are catalysts that support individual learning and growth. Although performance goals are almost always specified, learning is left to chance.

In addition to developmental objectives and accountability for growth, a variety of practices can provide this catalytic function. These include coaching or teaching aimed at increasing learning, using measurement and rewards (monetary or otherwise) to encourage growth or to encourage managers to develop their staffs, providing training at crucial junctures, finding ways to provide regular and substantive feedback on developmental progress, and designing experiences so that developmental opportunity is maximized.

Developing Executive Talent

The only reason to go to all this trouble is that developing leadership talent is crucial to the business strategy. If senior management believes that leadership is not a critical source of competitive advantage, that the current supply of leadership is adequate for present and future needs, that executive and leadership ability cannot be developed, or that the cream rises without any help, then executive development will end up as a showpiece rather than a strategic tool. Even with strategic commitment, effective development systems still depend on line management's taking responsibility for all four of the necessary components shown in Exhibit 1.

Exhibit 2 summarizes some of the suggestions for identifying and assessing talent, providing meaningful developmental experiences, establishing agents to move talent into developmental opportunities, and providing catalysts to enhance the learning that takes place. Like any other serious strategic thrust, developing executive leadership requires time, resources, commitment, and

EXHIBIT 2
Examples of Developmental Practices

Talent
Assessment of potential for development of executive leadership skills:

- Assess programs against leadership model
- Assess known potential flaws
- Assess previous experience
- Assess ability to learn from experience

Agents
Mechanisms for matching talent with opportunity:

- Succession planning
- Executive review committees
- Managed high-potential pool
- Immediate manager makes the decision
- Use of policy and rewards

Opportunities
Experiences that might develop leadership skills:

- Special assignments
- Adding responsibility to jobs
- Leading a start-up or turnaround
- Increased scope
- Project and task forces
- Staff assignments
- Diversity of bosses

Catalysts
Actions that facilitate learning from experience:

- Coaching
- Targeted training
- Accountability
- Feedback on development

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risk. By making it integral to the business strategy, it can become a natural and ongoing part of running the corporation.

The other option—leaving leadership to chance—is ultimately the greater risk.

TDY 93/94 CASE STUDY: A MANAGEMENT DEVELOPMENT CONSORTIUM

Source: "Consortium Brings Low-Cost Training Much Closer Home," by Randall Johnson, *Training Directors' Forum Newsletter*, February 1992, p. 6

The Suncoast Management Institute began 13 years ago as a cooperative venture of 10 member corporations in the St. Petersburg, Florida area. Today, the Institute includes 21 members and offers monthly, multi-day workshops, as well as several evening seminars each year. Member companies include giants like Honeywell and AT&T, as well as hospitals, city and county governments, and a group of 14 school districts that joined as a single unit. Most of the training is directed at middle- and upper-level managers, explains the author, with occasional presentations applicable to a wider audience. Since the Institute is a nonprofit entity which often uses training facilities of member organizations, costs are kept low. (AN211)

TDY 93/94 IN BRIEF

VARIOUS MOTIVATIONS FOR MANAGEMENT DEVELOPMENT

Source: "Ten Faces of Management Development," by Stan Lees, *Management Education and Development*, Vol. 23, Part 2 (1992), pp. 80-105

Why do organizations support management development activities? The reasons given on the surface are often different than those discerned upon probing the inner world of an executive's mind. "This is the socio-political domain of management," explains the author, "a complex dynamic of hopes and fears, ambitions and opportunities, threats and disillusionments, conflicts and contradictions. The gulf between this domain and the ideals and the promises of management development is the theoretical focus of this article." He discusses 10 very different reasons why organizations support management development:

1. **Functional-performance**—to directly improve managerial functioning and thereby corporate performance. This is the most common surface rationale.
2. **Agricultural**—to grow the company's managers.
3. **Functional-Defensive**—to build up a reservoir of knowledge and potential skills in the organization—just in case they should ever be required.
4. **Socialization**—to give managers a common language and understanding of the corporate ethos.
5. **Political Reinforcement**—to bring about culture change to standards defined by the CEO or a small group of senior personnel.
6. **Organizational Inheritance**—to enable managers to climb the corporate ladder.
7. **Environmental Legitimacy**—to signal conformity with environmental myths and to confer legitimacy on the organization from external constituencies.
8. **Compensation**—to provide training and development as a form of compensation or "welfare substitute" to the managers.
9. **Psychic Defense**—to provide a defense for a manager so that subordinates do not usurp his position, or withdraw support entirely.
10. **Ceremonial**—to legitimize and confirm the social progress of managers through the organization.

"These considerations pose massive problems," concludes the author, "if evaluation of any management development activity is attempted, not least because one can never be sure which rationale, or combination of rationales, might be contributing to detected changes in job performance." (AN212)

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PRECEPTS FOR DEVELOPING HIGH POTENTIAL MANAGERS

Source: "Realizing the 'Potential' of 'High Potential' Management Development Programs," by Stanley G. Harris and Hubert S. Feild, *Journal of Management Development*, Vol. 11, No. 1 (1992), pp. 61-70

High-potential management development programs can be a source of competitive advantage, say the authors, but they can also cause serious problems if not properly designed and implemented. The authors evaluated a program at a *Fortune* 200 company using the results of 65 semi-structured interviews and 192 detailed questionnaires. They briefly note the sources of program ineffectiveness, participant dissatisfaction, and the negative attitudes of non-participants. The bulk of the article, however, is devoted to suggestions for program design:

- Developmental job assignments must be challenging.
- Consider the pros and cons of rapid job rotation.
- Reduce job assignment uncertainty.
- Provide ongoing career guidance and development.
- Recruiting pitches must be realistic.
- Explain the program and its goals organization-wide.
- Do not leave non-participants out in the developmental "cold."
- Select and develop program supervisors carefully.
- Enhance non-participants' participation in the program.
- Choose carefully the criteria for selecting participants.
- Protect participants who are selected to help change the corporate culture.
- Ensure strong, visible executive-level support.
- Conduct ongoing program assessment and refinements. (AN213)

DEVELOPING STRATEGIC LEADERSHIP

Source: "The Strategic Leadership Imperative for Executive Development," by Albert A. Vicere, *Human Resource Planning*, Vol. 15, No. 1 (1992), pp. 15-31

Companies must develop a leadership pool which contains the breadth of leadership strengths which will keep the organization vital through change, says the author. He notes that while organizations may begin with strong innovation, as they mature they can become more reactive than innovative, and eventually decline and decay. The author presents a Strategic Leadership Model which relates leadership style to the life-cycle stage of an organization:

1. **Prophet.** Leadership is visionary, and the leader is a zealot driven by commitment to an ideal. Examples: Henry Ford, Thomas Edison, Stephen Jobs, and Clara Barton.
2. **Crusader/Barbarian.** Leaders must shift from the prophet's zealous pursuit to the relentless development of an organization capable of making that ideal a reality. These leaders are sometimes seen as crusaders, spreading the word and enhancing the survival of the ideal, and sometimes viewed as barbarians, ruthlessly transforming the ideal into a structured, regimented process.
3. **Explorer/Builder.** Growth and market focus are the key ideas of this stage, with leaders investing in development, perfecting the organization, hiring new people, and expanding into new markets.
4. **Administration.** Leaders in this stage tend toward centralization of decision-making with increased levels of formalization in planning, budgeting, and controls.
5. **Bureaucracy.** Now leaders are no longer innovative or adaptively creative, but reactive to the pressures of the outside environment. Revivals at this stage often require crusader/barbarian leaders to mount a revolution.
6. **Aristocracy.** Finally, leaders become isolated from the realities of the organization, which is now a hollow institution, devoid of ideals or sense of purpose.

After illustrating his model using the examples of the Soviet Union, Jack Welch at GE, Robert Horton at British Petroleum, and Sanborn and Hagen at Conrail, the author presents his ideal: a cycling process in which an organization is engaged in the continuous effort to identify, develop, and harmonize a cadre of strategic leaders capable of performing the roles of prophet, crusader/barbarian, explorer/builder, and administrator. Such an organization must keep its anchors both in its ideals and its market focus to remain vital. The article concludes with 7 recommendations for enacting strategic leadership development:

- View management as a process of interpretation, not a process of control.
- View executive development as a process of building commitment to strategic intent and engendering focus on markets.
- Design executive development strategies to create a talent pool of strategic leaders at all levels of the organization.
- Focus executive development efforts on building both the individual and collective talents of leaders.
- Recognize executive development as a competitive capability that assists in the development, implementation, and revitalization of organizational strategy.

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- View executive development as an element of strategic business development.
- Make executive development part of a consistent HR strategy. (AN214)

JAPANESE MANAGEMENT DEVELOPMENT

Source: "Management Development and Training Programmes in Japanese Firms," by James P. Neelankavil, *Journal of Management Development*, Vol. 11, No. 3 (1992), pp. 12-17

Japanese firms led the field of management during the 1980s, says the author. In this article, he presents a study of training practices in Japan, and he attempts to explain some of that phenomenal success. Some 110 Japanese middle management personnel were surveyed, and 3 key factors emerged:

- Japanese businesses are willing to provide training for their executives on an ongoing basis to nurture their potential and to retain the executive within the company.
- A variety of training is being offered, showing their inclination to build management generalists.
- The time devoted to each training program is much greater than in the US. The Japanese do not perceive the shorter US programs as providing sufficient knowledge to truly enhance the decision-making and problem-solving skills needed by executives.

As the Japanese see it, management development is the key to their business success—rather than any cultural, governmental, or economic advantage. (AN215)

B-2. MANAGEMENT DEVELOPMENT TECHNIQUES

TDY 93/94 CASE STUDY: ACTION LEARNING FOR GE'S GLOBAL EXECUTIVES

Source: "GE Brings Global Thinking to Light," by James L. Noel and Ram Charan, *Training & Development*, July 1992, pp. 28-33

With 25% of its revenues derived from international sales, General Electric has been designing its executive development programs to be international in scope. In this article, the authors describe GE's two 4-week executive development programs, each based on action learning:

- The **Executive Development Course** (EDC) is held once a year for potential officers who have been approved by the CEO. The EDC is designed "to help participants develop customer-focused global business strategies, lead in boundary-free teams and organizations, value cultural diversity, and build networks of career relationships." The authors describe the 1991 EDC which was held in Heidelberg, Germany. Following the introduction of leadership effectiveness assessment instruments and meetings with key European business leaders and government officials, action learning teams were given the action learning task of developing a consumer-lighting strategy for western Europe. After briefings, each team interviewed 60 to 70 customers, suppliers, analysts, and GE representatives across Europe, thus gaining valuable insights into doing business abroad. The project culminated with the presentation of a report and recommendations, debriefings on the team process, and a session with the CEO.
- The **Business Management Course** (BMC), conducted 2 or 3 times a year, is designed for potential general managers. The program has many similarities to the EDC program, though the less experienced participants typically spend 7 to 10 days on background concepts such as business strategy, economics, finance, and marketing. A 1989 BMC project evaluated China, India, and the Soviet Union as places to do business.

The authors conclude that "action learning makes participants active partners in the learning process. Because the team projects provide value to GE's businesses, it has an immediate return on investment." The approach also provides a vehicle for dealing with issues of leadership and teamwork, provides a hands-on cross-cultural experience, and engenders self-confidence. (AN216)

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TDY 93/94 RESEARCH SUMMARY: SURVEY ON MANAGERIAL JOB ROTATION

Source: "Issues and Practices in Management Job Rotation Programs as Perceived by HRD Professionals," by William J. Rothwell, *et al.*, *Performance Improvement Quarterly*, Vol. 5, No. 1 (1992), pp. 49-69

A management job rotation (MJR) program, these authors explain, is a planned effort to develop managers by placing them, for extended time spans, in new work settings within an organization. First, the authors discuss why there is increased interest in MJR, especially its help in combatting employee burnout. They then explore MJR's role in "field testing" high potential employees, skill building/expanding, and succession management. While rotations can be planned or unplanned, the authors believe that only planned ones are truly developmental because: (1) both the participant and members of the organization are aware that the rotation is being made to develop the individual, and (2) the individual's accountability for work duties and learning outcomes are established before any rotation begins. To study MJR, the authors surveyed 500 members of ASTD's Management Development Special Interest Group. Of the 108 respondents, 22% indicated that their organizations currently sponsor MJR programs. Most of these programs were designed to: (1) develop individuals for increased responsibility, (2) increase the pool of promotable management talent, (3) improve the organization's ability to respond to technological change, and (4) help individuals realize their career plans within the organization. Approaches which topped the list included short-term assignments, planned observations or long-term assignments, and troubleshooting assignments. Fewer than 50% of the managers on rotation experienced any serious adjustment problems in spite of the fact that most companies provide few coping strategies for their managers during this period. Seventy-two per cent of the respondents felt that MJR was important and more effective than unstructured management development programs. (AN217)

TDY 93/94 IN BRIEF

EXPERIENTIAL MANAGEMENT DEVELOPMENT

Source: *Experiential Management Development: From Learning to Practice*, by Solomon Hoberman and Sidney Mailick, Quorum Books, 1992, 260 pages, $49.95

Most management development programs are ineffective, contend the authors, because they do not help the participant transfer learning to his or her particular work situation. Drawing heavily on Revans' concept of action learning and Lewin's field theory of change (unfreezing, changing, and refreezing), the authors seek to present an integrated model of management development. Key concepts are:

- **Life-Bank.** A person's life-bank is the totality of values, assumptions, competencies, habits, and expectations with which the person is born and to which additions are made during a lifetime through learning. Learning takes place as a new problem causes searching of models stored in the life-bank. If one cannot be found that fits, then a new model is sought, allowing learning.
- **Venue.** There is not automatic transfer from the *learning venue* to the *work venue* or specific work situation. The use of life-bank elements tends to be venue-specific.
- **Experiential learning.** *Passive learning* does not require participants to engage in an activity to implement a decision and actually deal with the consequences. *Synthetic experiential learning* through simulations and case studies produces learnings which do not necessarily transfer to the work venue. *Natural experiential learning* is most effective, since learning takes place in the venue in which the learning is expected to be used, by performing work which is expected to continue after completion of the specific training.

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The authors show how these principles have been applied to the *LIFE* (Learning Inducted From Experience) program for senior managers in the New York City civil service, a degree program of the Graduate School of Public Administration of New York University. In brief, the program consists of: (1) three-month content modules related to the needs of the participants, (2) bi-weekly preceptorial sessions with 2 to 4 participants meeting with a faculty member to discuss, assess, reinforce, and plan to use new learning in their work situations, and (3) one- to 3-day plenary meetings at the beginning and end of each module to introduce and integrate new content as well as reinforce learning from the module being completed. The book includes a survey of the history of management, an extensive review of management learning theory, and a strong critique of present management development approaches. The book concludes with a helpful glossary to terms and concepts referred to and a full bibliography. (AN218)

DEVELOPING EXECUTIVES THROUGH LEARNING EXPERIENCES

Source: "Executive Development That Makes a Business Difference," by Gail S. Robinson and Calhoun W. Wick, *Human Resource Planning*, Vol. 15, No. 1 (1992), pp. 63-76

This article presents learning strategies and skills designed to help executives turn work and life experiences into career developers. The authors identify several factors and personal traits critical to developmental experience: (1) challenge, (2) novelty, (3) responsibility, (4) choice/control, (5) critical thinking, (6) hypothesis use, (7) critical reflection, (8) cognitive complexity, (9) tolerance for ambiguity, and (10) flexibility. Learning from experience, the authors say, consists of 3 basic elements:

1. Prior to the experience, the individual needs help in planning how to approach the experience in order to gain the most from it.
2. During the experience, an action learning process should be employed that involves alternating periods of action and reflection.
3. After the experience, the person needs a structured opportunity to reflect more deeply on the experience in order to extract maximum learning from it.

The authors present a 9-part development application that consists of: (1) a pre-work learning agenda, (2) a development cycle, (3) a focus on stretch in work, (4) a developmental quiz, (5) a visioning exercise, (6) a substantive development plan, (7) team support and accountability, (8) support during the experience, and (9) critical reflection skills. Finally, the authors examine this application in action in 2 case studies. (AN219)

CUSTOMIZED MANAGEMENT EDUCATION

Source: "Executive Education/The Custom Alternative," by Marc Hequet, *TRAINING Magazine*, April 1992, pp. 38-41

Companies and business schools are uniting to make executive education more relevant to the individual, says the author. The solution seems to lie in providing tailor-made or customized programs to fit the corporation's needs. Custom courses have become attractive to companies who need to educate large numbers of people or produce massive changes in the organization. They get (1) volume management education at discount prices, as well as (2) assistance with broad-based realignment of corporate thinking. The author describes some customizing experiences of several large companies: Ford, Inchape PLC, KPMG Peat Marwick, and IBM. His advice for getting the most out of such an investment begins with being very clear about objectives and values, and ensuring plenty of support from the top. He also suggests how to shop for the right school:

- Choose prestigious schools with good reputations—but don't be dazzled by big-name academics.
- Be sure the school you select is strong in the areas your company needs.
- Check the initial response—does the school seem truly interested in customizing education?
- Be honest about your needs and intentions.
- Ask about administrative staffing for the program.
- Check faculty resumes and be selective about the professors who will work with you.
- If the right teachers are not all available at a given school, inquire about the possibility of bringing in somebody from another school.
- Finally, don't write a school off simply because it can't help you this time—their honesty in admitting this may be a sign of quality and integrity that can be of benefit to you at another time. (AN220)

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B-3. SUPERVISORY TRAINING

TDY 93/94 CASE STUDY: SUPERVISORY TRAINING AT LITTON PRECISION GEAR

Source: "Empowering First-Line Supervisors at Litton Precision Gear," by Arnold Brown and Joan Chesterton, *The Human Resources Professional*, Spring 1992, pp. 26-29

Litton Precision Gear, a Chicago manufacturer of precision gears and gear boxes for the aerospace industry, sought to broaden their first-line supervisors beyond the "leadman" role they were filling. Training began with a series of six 3-day, off-site workshops which explored: (1) self-awareness, (2) leadership skills, (3) problem-solving, (4) conflict management, and (5) time management. Workshop leaders scuttled traditional, passive techniques and instead sought to help the supervisors learn actively. For example, in the module on managing conflict, participants completed a self-assessment instrument to determine their individual conflict style, and then they wrote a conflict case study to be presented and discussed with the group. At the end of the session, participants worked as teams to summarize the discussion and to formulate recommendations for the effective management of conflict at the worksite. Only after each team had presented its "do's" and" don'ts" to the group was the similarity of their recommendations to those of the authorities in conflict management pointed out. To supplement these initial workshops, an informal needs analysis (via direct feedback from the supervisors) identified other areas to be studied, which led to the creation of a series of "alumni" sessions: one on interviewing job applicants (one-day), another on making presentations (half-day), and a third on motivation via coaching, evaluation and discipline (one-day). A separate session gave an opportunity for the supervisors to summarize problems discovered during their training (together with recommendations) to Litton's senior management, and both parties—supervisors and executives—found these sessions to be particularly stimulating. These weren't the end of the supervisory workshops, and the authors briefly describe several additional programs: a role negotiation workshop for reconciling the different expectations of managers and supervisors, a union committee workshop, and a series of team building workshops. (AN221)

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RESEARCH SUMMARY: SUCCESS FACTORS IN SUPERVISORY TRAINING

Source: "Training Directors' Perceptions About the Successful Implementation of Supervisory Training," by Paul Taylor, *Human Resource Development Quarterly*, Fall 1992, pp. 243-259

A large number of organizations provide supervisory skills training to their first-line supervisors, this author notes. But implementation of that training may vary greatly from company to company. He conducted a study of 350 training managers in companies with more than 3,000 employees, and his results document the trainers' views of: how supervisory training is implemented and the relationship of that implementation to training program success. The reviews 8 characteristics of supervisory training implementation to determine their importance to the success of training:

- The types and extent of needs analyses,
- The extent of management support for the training,
- The extent to which supervisors saw the need for training,
- The degree of the involvement in the training of the supervisors' immediate superiors,
- Mandatory versus voluntary attendance,
- The scheduling of the training,
- The use of follow-up sessions, and
- The linkage of training to performance appraisals.

Several tables detail the study's findings, one of which was the most important determinant of the success of the training program was supervisors' and their superiors' perceptions of the need for training. The author also found that, despite an abundance of literature to the contrary, systematic needs analyses are not important to the success of supervisory training. (AN222)

B-4. DEVELOPMENT FOR THE GLOBAL MARKETPLACE

AT HOME ABROAD

by Alicia Kitsuse

One of Steve Ruffing's first projects when he became manager of international human resources at Northwest Airlines in 1989 was to interview Northwest's expatriates for feedback on the expatriation process. The experience, he recalls, was like ripping the lid off Pandora's box. "It immediately became clear that folks weren't prepared for the adjustments involved in living and working in another country," Ruffing says. "They just sort of dumped on me about all the problems they'd had adapting to the foreign culture."

Lacking even basic information about their host culture, expatriates spoke of floundering to orient themselves in their new environment, particularly in remote locations where no other expatriates were on hand to show them the ropes. On the home front, spouses struggled to master public transportation, find groceries and household goods, and place children in extracurricular activities in an effort to reestablish a sense of family life. At the office, it was "the school of hard knocks" as well, says Ruffing. Employees managing foreign nationals ran into gaps in communication and management style that bedeviled them for months. "You usually have one chance to make an impression on people," says Ruffing, "and if you're unlucky enough to make a poor one, you have a long time to get over it."

Galvanized by Ruffing's discovery, Northwest promptly joined the growing ranks of companies availing themselves of training programs designed to give expatri-

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ate assignees and their families the information and skills crucial to successful cross-cultural adaptation. Though such programs aren't new, they've become more popular in recent years as U.S. companies have become more aware of cross-cultural issues—a sensitivity honed in large part by increased contact with Asian countries. Since 1990, Northwest has encouraged all new expatriates to attend a five-day skills and language program before departure.

Companies in the market for a cross-cultural training firm will find a variety to choose from. Although firms emphasize that they tailor their services to the needs of their clients, most offer a basic two- to three-day predeparture program for both the husband and wife, and many have a concurrent orientation program for children. Including an employee's spouse in the training process is essential, relocation managers say, because the success of an overseas assignment often turns upon the spouse's adjustment to the host country. "There's a direct correlation between the happiness of the spouse and the employee's performance on the job," says Ruffing. "If the spouse is unhappy, then everything is terrible."

A key function of cross-cultural training is to give future expatriates an understanding of culture itself and provide them with an analytical framework for understanding the cultural differences they are likely to encounter in their host country. In a forthcoming book on international assignments, Hal B. Gregersen, J. Stewart Black, and Mark Mendenhall write that culture is based on a shared set of assumptions or values about the nature of the world. Fundamental beliefs about such things as the nature of human relationships, the nature of human activity, and even the nature of human nature differ from culture to culture and produce different kinds of behavior—not to mention conflict and frustration when two kinds of behavior collide.

During training, couples are first asked to identify American cultural values—individualism and time-con-

ABROAD AT HOME

by J. Paul Tom

Increased experience with overseas assignments in recent years has taught many companies the value of providing outbound executives with cross-cultural training. What many organizations haven't yet learned, however, is the investment loss in human resources represented by the poorly managed repatriation of executives.

Studies and surveys indicate that about one quarter of executives who are repatriated have serious intentions of leaving their organizations within a year. In fact, there's a window of time ranging from a year to about a year and a half after returning, when a repatriate is extremely vulnerable to being wooed away by another company. Some studies that incorporate domestic and international relocation peg the defection rate as close to 35 percent.

Now consider what these hard investment losses could amount to. A typical executive earning $100,000 a year who is sent to Tokyo will cost about $400,000 a year after benefits and tax equalization. Over three years, the investment in that executive exceeds $1.2 million. Bringing that executive back could amount to $50,000. Then add the soft investment dollars, such as the person's expertise and knowledge about conducting business in Tokyo. Imagine the lost investment if just one in four of these executives leaves the organization once he gets home. Compound the investment with the skills and business contacts that these lost repatriates take to a new company, and the numbers begin to take on true significance.

Despite the alarming statistics, most companies to a poor job of managing repatriates or planning their move home. Organizations tend to manage the expense side of relocation rather than the psychic or emotional aspects—not because the company didn't pick up the points on the home purchase.

Why is returning home so difficult? For many executives, being an expatriate is a unique event in their careers. On a personal level, they are often viewed as a bit special in the eyes of corporate management and the local nationals; as a result, they often enjoy a greater sense of self-esteem.

On a work level, most expatriate assignments are intended to be broader than positions at home, even when within a specialization. There's also often greater freedom in decision-making and few toes to step on, so many projects get completed more quickly. Whether or not their position is actually described as such, many expatriate managers are expected to be a bit more autocratic than they would be at home, because the point of the assignment is to get something specific done: fix it, grow it, or start it. In addition, there tends to be a marked decrease of posturing for visibility, because the nature of the assignment is inherently temporary. These factors typically make overseas work experiences more enriching than those an executive enjoys at home.

Upon returning home, almost all repatriates feel like foreigners in their own country, especially if returning to their original jobs. In addition to losing most or all of the generous company-provided benefits they enjoyed overseas, expatriates are likely to feel that their assignment had small value in the eyes of management, either because the company had no formal plans for repositioning them within the organization or because no one in the organization seems to care about what they learned while doing business overseas. Moreover, repatriates return home feeling personally changed by their overseas experiences, but find that everyone else has more or less stayed the same. In many ways, reentry adjustments are much

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sciousness, for example—and then compare them with those of their host culture. "People may not be able to change their attitudes, but they can change their behavior, and that will help them," says Gary Wederspahn, director of design and development at Moran, Stahl & Boyer International, a training firm in Boulder, Colorado.

Trainees test their insights and try out new behavior through case studies and role-playing exercises. In a case study for managers going to Spain, for example, trainees at Moran, Stahl & Boyer might analyze a situation in which their banker, who'd done them a favor by going into the office over the weekend to help them meet their payroll deadline, hinted that they could return the favor by finding a job in their company for his young unproven nephew. The trainees ideally would identify the Spanish emphasis on highly personalized business relationships but, mindful of how difficult it is to fire an employee in Spain, would not feel pressured into hiring the nephew, says Wederspahn. "At some point you're going to have to do something in return, but this is a relatively large favor. You don't have to do it."

One role-playing exercise at International Orientation Resources, a cross-cultural training firm in Northbrook, Illinois, requires several couples going through training at the same time to mingle at a simulated cocktail party. Before the exercise, the participants have been divided into two groups. One group is told to stand six inches closer to their assigned partners in the other group than they normally would during conversation. The other group is told not to make eye contact during conversation. Neither group knows what the other group's instructions were. Afterward, participants are asked how they felt about their partners. "Since eye contact is a way that [Americans] read sincerity, the people who don't make eye contact are generally perceived as shifty," says Ramona Link Meher, one of the firm's trainers. Likewise, she says, those who stand unusually close to their partners are perceived as aggressive or pushy because

more difficult than adjusting to life overseas, because the returning executive has far greater expectations. There's often a consensus in expatriate circles that once one has been overseas for a certain amount of time, one must stay overseas, because adjusting to home is likely to be impossible. Indeed, living overseas, I have on many occasions bid goodbye to somebody working for one company only to be welcoming him back in a new capacity for a new company within months.

What can a company do to reduce the odds that an expatriate who returns home will leave the firm? One thing is to provide counseling that deals realistically with the problems repatriates are likely to face when they get back. Because most organizations don't care to alarm expatriates about the difficulties of returning home, counseling sessions before the move typically focus on the fact that home will seem foreign and that their lives will change. Rarely, if ever, do sessions identify the critical elements that cause people to leave an organization once they return, such as lowered self-esteem due to a reduction in independence and responsibility, lost or diminished sense of focus or mission at work, and the general stress that any major change places on a spouse and family. Giving returning expatriates and their families a big dose of fact would be a much better preventive than avoiding the issues.

The company, too, may need preparation to deal with the newly repatriated employee. Repatriates are often ignored, or they are expected simply to slip back into the organizational fabric. Few coworkers understand why repatriates dislike being back. Some form of communications plan directed at other employees to explain the natural feeling of a returning expatriate would greatly help him to make the transition. Such a plan needn't be companywide; it could be restricted to the employee's immediate work group and company management.

Companies should also keep stronger links with their employees while they're overseas. Most expatriates have a sponsor at home throughout their stay abroad, usually the person who suggested the move overseas or the expatriate's manager, but other opportunities to keep expatriates involved in company management are often lost. Trips back to headquarters, for example, are typically no more than an exercise designed to make home leaves a deductible business expense. To make the expatriate feel like an integral part of the organization, these visits should include real business meetings, with information sharing.

Companies also need to expand their line of sight internationally. Some companies that internationalized by making global acquisitions have become particularly good at globalizing their management. They make expatriate assignments part of an overall structural strategy rather than an unrationalized, ad hoc decision. In some companies, repatriates may assume the international function of their specialization, such as the post of international marketing manager or international finance manager. If the overseas counterpart to their specialization doesn't exist, repatriates may be charged with expanding their specialization from a national to a global focus.

The bottom line is that careful planning of employee relocations is critical if companies are to keep their valuable investments in human resources. A small amount of time spent in designing and implementing such a program can pay back big dividends.

J. Paul Tom, is a vice president and regional manager of international consulting for A. Foster Higgins International and Johnson & Higgins Consulting in San Francisco. He has lived abroad for 16 years and was recently repatriated from Singapore, where he had worked for four years.

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HOMEBODIES

Even as multinational companies are stepping up their efforts to send managers overseas for international experience, many managers are deciding that they'd rather stay home, according to a recent Conference Board study, *Recruiting and Selecting International Managers*. In a survey of human-resources executives at 130 multinational companies, only 25 percent of the respondents said that their managers were eager for foreign assignments. Changes in family life, career damage and repatriation fears, and interruption of a spouse's career topped the list of managers' concerns.

With a cadre of global managers now considered a key to business competitiveness, companies are using both carrots and sticks to persuade managers to venture abroad. According to the report, many companies are now bringing up international assignments during early career-planning discussions and advising managers who express reluctance to live abroad to seek a career elsewhere. To allay fears about career damage and repatriation, some companies are guaranteeing outbound executives certain jobs, locations, and even promoted upon return.

Companies are taking a more active interest in spouses' careers as well. Some firms time international assignments to coincide with certain stages of a spouse's career. Others assist spouses in finding jobs abroad, or hire the spouses themselves. Another tack is to shorten international assignments to six- or eight-month business trips in which the family does not relocate and the employee is allowed frequent trips home. —A.K.

they violate the American preference for standing at arm's length from conversation partners. The purpose of the exercise, Meher says, is to raise expatriates' consciousness about how easily harmful misperceptions can occur in a foreign country, and to teach them "to deal with an unwritten script without attaching any emotional flags to it."

Cross-cultural acumen notwithstanding, few families will escape the phenomenon known as culture shock. Often marked by a swift change in moods, culture shock generally strikes three to six months into a stay in a foreign country, and is characterized by anger, depression, and withdrawal. Though these symptoms eventually disappear, the experience can be extremely painful. To bolster them against culture shock, trainers help families identify signs of stress in one another and teach stress-management techniques. The best relief, however, may simply be mental preparation for the inevitable. "Knowing what's going to happen is very comforting," says Frank Kiska, manager of international sales and marketing at Nash International Company, who spent two years in Seoul with his wife and three children. "When we went through our low period, we knew what to expect and it wasn't so upsetting."

Training programs also include a briefing by a specialist on the host country's history, politics, geography and economy, and a series of presentations on living and working in the host country. At International Orientation Resources, a sample program for Paris includes a presentation on social customs and etiquette taught by a French national, a segment on conducting business in France led by a businessman with experience in both the United States and France, and a discussion of daily living and household management led by a recent repatriate from Paris.

Some training firms maintain a network of on-site representatives, who help newly expatriated families settle into their daily routines and aid spouses in setting up their households. Most provide trainees with resource materials on hospitals, doctors, schools, people to contact, churches, and social organizations. Spouses, most of whom cannot obtain working permits while abroad, are also counseled on volunteer and educational opportunities.

With a price tag of $4,000 to $10,000 for a family of four, training programs aren't cheap. Although companies admit that it's difficult to affix a dollar figure to the effectiveness of training, they justify the expense against the sobering estimates of the cost of a single failed assignment: between $200,000 and $300,000 in moving costs, salary, and other expenses, depending on the location. Still more sobering, research suggests that as many as 30 percent of all American expatriate assignments end prematurely, primarily due to the inability of the executives and their families to adjust to a new culture. Given the odds, says Jim McCarthy, director of international personnel administration at Motorola Inc., which has been providing cross-cultural training for the past five years, "training just makes good business sense."

A review of academic literature on the subject supports this. J. Stewart Black, of Dartmouth College's Amos Tuck School of Business Administration, and Mark Mendenhall, a business professor at the University of Tennessee at Chattanooga, found that nine out of nine studies showed a positive relationship between cross-cultural training and cross-cultural adjustment, and 11 out of 15 studies showed a positive relationship between training and job performance.

Any training should show some positive effect, however. The harder question: Are firms getting enough results to justify the trainers' hefty price tags? Researchers urge the buyer to beware. "I'd be extremely careful about who I contract out to," says Hal B. Gregersen, professor at Brigham Young University's Marriott School of Business. Gregersen stresses the importance of a training program that's tailored not only to a given country but to the specific job of the employee. Most training firms, he believes, lack the expertise and resources to prepare such programs, particularly for remote, exotic countries. "Some of the specialization is on the level of taking the pickles off a Big Mac," says Gregersen.

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TDY 93/94

RESEARCH SUMMARY: OVERSEAS ASSIGNMENTS AND CAREER DEVELOPMENT

Source: "Career Management Issues Facing Expatriates," by Daniel C. Feldman and David C. Thomas, *Journal of International Business Studies*, Second Quarter 1992, pp. 271-293

To examine the career development of expatriates, the authors analyzed 118 usable surveys (a 40% response rate) from expatriates currently working outside their home country. Survey questions examined both organizational career development measures (free choice, realistic job previews, definite repatriation plans, mentoring, and long-term career paths) and individual career management coping strategies (getting task help, social integration efforts, "psychic reappraisal," psychological withdrawal, "palliative coping," overall performance, relationships with host nationals, skill acquisition, and intent to remain). Overall, the study showed that expatriates who see a strong connection between their overseas assignments and their longer-term career paths are more likely to have successful expatriate assignments. Trying to get socially integrated, psychological reappraisal, seeking task help, and social integration are all strongly related to expatriate effectiveness. Expatriates in Saudi Arabia were less likely to use social integration and psychic reappraisal as coping strategies than were expatriates in other countries. The authors conclude that "the longer-term issues of integrating the expatriate assignment into logical career paths can be as important as the shorter-run issues of language training and pre-departure training in facilitating expatriate success." The study also suggests that expatriates can be active participants in their own adjustment process. (AN223)

"How are they really going to be able to customize training programs to 350 countries in the world?"

One way for companies to maintain control over the quality of the training their employees receive is to develop an in-house training program, a course that a number of foreign firms have already adopted but that corporate America has yet to embrace. SAS Corporation has been running a cross-cultural training program at its Intercultural Communications Center for the past eight years. Administered by four full-time staff members, the center is capable of providing training for 65 different countries through a three-day program that closely resembles basic programs in the United States.

Though SAS has been pleased with the results of its program, Lena Ahlström, director of the SAS Management Center, says that it's both expensive and time-consuming to gather the information that the employees will need. To finance its program, SAS trains employees from other Scandinavian companies as well. Of the 100 families that are trained each year, only about 30 are from SAS.

In Japan, in-house training programs are common among multinational companies, as are frequent cross-industry meetings of training directors to exchange information on training programs, a reflection of a widespread recognition of the value of cross-cultural training. According to J. Stewart Black, 65 percent to 70 percent of Japanese companies provide some form of cross-cultural training to their employees—more than double the level provided by American firms. The international-education division of the Institute of Management at NEC Corporation boasts 17 staff members responsible for administering the company's cross-cultural training programs, which are perhaps the most comprehensive of any international company. Aside from a mandatory five- to 10-day predeparture program, the company suggests that future expatriates take several other area and function-oriented courses ranging from one to four days long. The company also provides various language courses on conversation, writing, and making presentations. As Black points out, however, an in-house program as ambitious as NEC's is practical only for companies with large numbers of expatriates—in NEC's case, 900.

Black and his coauthors also believe that training is more effective if it's done in two stages: an orientation session before departure that focuses on need-to-know information on etiquette, day-to-day living, household management, and so forth, and cultural training five to seven months after arrival in the host country. At that point, says Black, "training is more meaningful because expatriates have run into some of these [cultural issues] and are more motivated to learn." Companies that have experimented with this approach, however, say that it's better in theory than in practice. "The employee gets busy and suddenly—guess what—there's no time for training," says Laurie Mack, coordinator of corporate communications at Clarke Consulting Group, a Redwood City, California, firm that specializes in training and consulting for Japanese and American companies.

If nothing else, increasing interest in cross-cultural training has done much to fatten the bottom line of training consultancies. According to Gary Wederspahn,

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Moran, Stahl & Boyer has registered 26 percent growth every year since 1982, a reflection, he believes, of companies' growing recognition that harmonious intercultural work relationships are the foundation of competitive advantage in today's business world.

For E.I. du Pont de Nemours & Company, this is the article of faith upon which its heavy investment in cross-cultural training is based. The company, which has been involved in cross-cultural training for more than 20 years, is currently developing a full complement of training activities for the Asian Pacific and South American regions. The program will be offered both to Americans heading to those regions and to foreign nationals coming to work for Du Pont in the United States.

The training cycle in Du Pont's program includes expatriate selection, predeparture training, assistance in settling in, ongoing cross-cultural team-building seminars, and repatriation counseling. "We are trying very hard to respect people, to honor our differences and still be able to work together," says Florence Garvin, Du Pont's manager of international human-resources development. Nevertheless, she insists, the company's involvement in cross-cultural training is strategic rather than beneficent. "We don't see this as touchy-feely," she says. "We see it as a way to maximize our competitive position."

GLOBAL MINDSETS FOR GLOBAL MANAGERS

by Stephen H. Rhinesmith

There is a great deal of discussion these days about global mindsets. The general feeling is that a global mindset is something a global manager must have, and that it represents a certain curiosity about the world and a willingness to deal with broad global and foreign issues. But few attempts have been made to define what a global mindset is and what a manager with a global mindset might look like.

Glen Fisher describes mindsets as "differing ways that the subject at hand is perceived, understood, and reasoned about." (*Mindsets: The Role of Culture and Perception in International Relations*; New York: John Wiley, 1988).

That is similar to what Joel Barker calls a "paradigm" in *Discovering the Future: The Business of Paradigms* (St. Paul, MN: ILI Press, 1989). He defines a paradigm as a "set of rules and regulations that...establishes or defines boundaries and...tells you how to behave inside the boundaries in order to be successful."

For our purposes, we will define a mindset as a predisposition to see the world in a particular way that sets boundaries and provides explanations for why things are the way they are, while at the same time establishing guidance for ways in which we should behave. In other words, a mindset is a filter through which we look at the world.

A mindset is a way of being, not a set of skills. It is an orientation to the world that allows you to see certain things that others do not see. A "global" mindset means that we scan the world from a broad perspective, always looking for unexpected trends and opportunities to achieve our personal, professional, or organizational objectives.

Warren Bennis differentiates between managers and leaders in an article in the May 1990 issue of *Training*. In "Leadership in the 21st Century," he captures many of the mindsets necessary to be effective globally. His list includes the following, among others:

- The manager administers; the leader innovates.
- The manager focuses on systems and structures; the leader focuses on people.
- The manager relies on control; the leader inspires trust.
- The manager has a short-range view; the leader has a long-range perspective.
- The manager asks how and when; the leader asks what and why.
- The manager does things right; the leader does the right things.

Six Approaches

In 25 years of management and research in this area, I have found that people with global mindsets tend to approach the world in six specific ways:

People with global mindsets drive for the bigger, broader picture. People with global mindsets are constantly looking for context. They are concerned about the backdrop against which current events are happening. This backdrop may be historical, but it is more likely to be concerned with current and future trends on a broad, global basis.

A global mind is never content with one explanation of an event, never satisfied with one task when it can manage a project, and never happy with a project when it can manage an organization. Likewise, people with global mindsets are constantly scanning the geographical horizon to learn more about potential markets and competitors, new technology, and new suppliers.

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Relationships Among Domestic and Global Mindsets, Personal Characteristics, and Competencies			
Domestic mindset	Global mindset	Personal characteristic	Competency
Functional expertise	Bigger, broader picture	Knowledge	Managing competition
Prioritization	Balance of contradictions	Conceptualization	Managing complexity
Structure	Process	Flexibility	Managing adaptability
Individual responsibility	Diverse teamwork and play	Sensitivity	Managing teams
No surprises	Change as opportunity	Judgment	Managing uncertainty
Trained against surprises	Openness to surprises	Reflection	Managing learning

Global mindsets can be compared with the more parochial, domestic mindsets that are perfectly legitimate for domestic organizations, but that often fall short in organizations that operate globally. The first two columns of the box, "Relationships Among Domestic and Global Mindsets, Personal Characteristics, and Competencies," point out the contrasts.

Moving managers from a domestic to a global profile often depends on the degree to which an organization rewards behavior that falls under the heading of "global" rather than "domestic." That shift is the human resource challenge that is central to globalization activities in many corporations today.

Global Mindsets and Personal Characteristics

There is a definite connection between global mindsets and personal qualities or characteristics. It is possible that a characteristic may precede a mindset, or that a mindset may lead to a certain behavior that, in turn, creates a related characteristic.

Human resource managers have spent years trying to develop screening and selection procedures for identifying global managers. Most have used personal characteristics as the basis for testing, since it has been difficult to test mindsets and there has never been a well-developed theory or method of testing the relationship between personal characteristics, mindsets, competencies, and the capacity to manage globally.

The framework we are developing here is not empirically derived, but it provides a context—based on personal experience, global management training programs, and relevant literature—within which to grapple with the issue of global management and the ways that global managers can be selected and developed.

The second and third columns in the box, "Relationships Among Domestic and Global Mindsets, Personal Characteristics, and Competencies," outlines the relationship between global mindsets and the characteristics that are most often associated with them. The six characteristics are knowledge, conceptualization, flexibility, sensitivity, judgment, and reflection.

Knowledge. Constantly driving for the bigger, broader picture will expand one's knowledge. A global manager's technical, business, and industry knowledge is the most fundamental quality that allows him or her to successfully manage the competitive process, both domestic and foreign.

This knowledge must be broad as well as deep, and must have a well-developed international dimension that includes constant scanning of information and of competitive and market conditions on a global basis.

Conceptualization. A global manager must also have a highly developed conceptual capacity to deal with the complexity of a global organization. This conceptual ability needs to be present in two forms.

Global managers must be specialized and at the same time holistic in their thinking. As Peter Senge notes in *The Fifth Discipline* (New York: Doubleday, 1990), managers of learning organizations need to have a "systems view" of the world as well as personal mastery of their functions. A systems view requires an intuitive, right-brain ability to understand different levels of business vision, mission, and strategy and to grasp their implications for global structure, culture, and people.

Global managers must also have analytical, left-brain skills to be able to balance contradictory forces and get to the heart of the complex issues that are part and parcel of a global organization. Not only is it important to be able to live with a balance of irreconcilable demands, but it is

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also necessary to use analytical skills to break complicated issues into parts that can be managed and made actionable by others.

Flexibility. Global managers are constantly challenged to trust process rather than structure as the way to deal with organizational adaptability. This is not easy for someone who has become used to one way of life, one world view, and one comfortable skill set.

The management of a global corporate culture that is adaptable and capable of dealing with rapid changes in the environment requires flexibility. Flexibility allows managers to meet the needs of the organization by constantly adjusting to global and local demands through coordination and allocation of the organization's resources.

Dependence on a structured process of decision-making, or even on preset understandings of the relationships between different functions, often leads to failure. To achieve results, a global manager has to be able to work with decision-making and problem-solving processes rather than policies and procedures.

Sensitivity. Since global organizations conduct most of their creative and operational work in multicultural teams, global managers must have a sensitivity to cultural diversity that few people possess naturally.

Learning to be cross-culturally sensitive is not easy. It requires not only a sensitivity to others, but also a fairly well-developed ego and self concept.

I have found that the people who adapt best cross-culturally are those who feel relatively secure with themselves. There is always some form of challenge in cross-cultural interactions. Often this challenge is directed at questions of who you are and what you believe in. When faced with such issues, the most successful people are those who have reasonably well-developed philosophies and approaches to life that are inclusive rather than exclusive of others.

The ability to operate cross-culturally comes more naturally to some than to others; in any case, it requires lifelong learning. There is a wide range of cultures and people in the world. Some will always be more difficult than others for any given person to deal with.

Those of us who work internationally must be constantly attentive to increasing the range of the skills and abilities that will help us work constructively with the broadest ranges of people and cultures. We have to be relatively well-integrated and emotionally stable, but we also must have a predisposition to hearing others' views and a willingness to question our own assumptions, values, and beliefs about the world and the way it operates.

Judgment. Many global managers have gained their reputations for technical expertise. It is clear that the speed and complexity of change in global organizations leaves many such managers feeling overwhelmed by the lack of certainty.

Uncertainty requires new levels of judgment that enable us to see change as an opportunity rather than a threat. Global managers must be able to intuit decisions with inadequate information. They should be willing to make decisions based on their experience, rather than on refined empirical data. For that reason, most effective global managers have rather broad experience and have demonstrated the ability to operate under many different managerial, organizational, and international circumstances.

Effective global managers often display a good mix of self-confidence and humility. They are experienced enough to be confident in their judgments, but they are also experienced enough to know that there is seldom only one right answer to any issue of importance. They know that every major decision requires a certain amount of circumspection, questioning, and listening for new viewpoints.

An engineer, for example, may have been trained to believe that there are correct answers for many technical problems. Imagine how difficult it is for such a person to face the challenge of becoming a global manager who must make decisions without information, with doubts about his or her expertise in making proper judgments about management operations, and with time pressure that will not allow adequate analysis.

The interpretation of ethical dilemmas from a cross-cultural perspective, for example, is one of many challenges of judgment that global managers face.

Reflection. All successful global organizations seek continuous improvement. Continuous improvement does not happen without managers who are also seeking constant improvement in their own and their organization's performance. And this improvement cannot be achieved without a capacity for reflection.

Reflection provides the perspective necessary for dealing with the next round of challenges. It enables us to weave some sense of development and progress into the fabric of our lives and the lives of the organization and people with which we work.

Lifelong learning and education drive successful global managers, because they recognize that they can never know enough to deal with the world around them. If they search correctly and long enough, their efforts may lead to vision and even leadership.

Now, let's examine the relationship of mindsets and personal characteristics to six global managerial competencies.

Competencies and Characteristics

If mindsets and personal characteristics are the "being" side of global management, then competencies are the "doing" side. This definition is somewhat at variance with Richard Boyatzis's definition of a competency as "the knowledge, motive, trait, self-image, social role, or skill essential to performing a job" (*The Competent Manager: A Model for Effective Performance*, New York: Wiley 1982).

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I have chosen to equate competency with "skill," and to denote Boyatzis's other factors—knowledge, motive, trait, self-image, and social role—as personal characteristics.

The last two columns of the "Relationships" box on p. 7.52 show how the six personal characteristics provide the backdrop for the six competencies. The six global management competencies are as follows:

- **Managing competitiveness** means constantly scanning the environment for changes in market, competitive, and supplier conditions, as well as socioeconomic and political trends that may affect the organization and its strategic intent.
- **Managing complexity** involves the skills necessary for managing trade-offs among many competing interests, as well as managing the inherent contradictions and conflicts that exist in all global organizations.
- **Managing adaptability** entails developing a global corporate culture with the values, beliefs, systems, and norms of behavior that allow it to be responsive to constant change, and with the ability to deal with ambiguity.
- **Managing teams** within a multi-cultural environment requires cultural sensitivity and managerial skills to lead, understand, manage, and supervise people from a wide range of cultures in a broad range of work situations.
- **Managing uncertainty** is a fundamental skill for dealing with the increasing chaos of the environment in a way that provides for continuous improvement, while providing structure or taking advantage of opportunities that arise from a lack of structure.
- **Managing learning** requires managers not only to learn about themselves on a continuing basis, but also to train and develop others and facilitate constant organizational learning so that the organization can be responsive and adaptive to global change and challenge.

Next, let's pull all of this together into a framework that outlines the relationship between competencies, characteristics, actions, and mindsets.

The best way to understand the relationship between each of the variables in the global competency model is with a formula: $C+Ch=f(AxM)$. In other words, *Competency plus Characteristic is a function of Action multiplied by Mindset.*

The box, "A Global Manager's Guide to Action," verbally relates the six competencies to their associated variables. By concentrating on the actions, you can see how to get to the competencies, characteristics, and mindsets.

These elements need to be the focus of human resource study and development in global organizations during the 1990s.

A Global Manager's Guide to Action

1. Manage competitiveness through knowledge, by driving for the bigger picture.
2. Manage complexity through conceptualization, by accepting the balance of contradictions.
3. Manage adaptability through flexibility, by trusting process over structure.
4. Manage teams through sensitivity, by valuing diversity.
5. Manage uncertainty through judgment, by flowing with change.
6. Manage learning through reflection, by seeking to be open.

Integration of Global Competencies with the Levels of Globalization

At this point it might be useful to describe the relationship between the global competencies we have identified and the levels of globalization I discussed in a February 1991 *Training and Development Journal* article, "An Agenda for Globalization." That article discussed three levels of globalization for organizations: strategy or structure, corporate culture, and people.

Each level of globalization requires a different set of the competencies and related characteristics of global managers:

- Level 1—Strategy or structure: competitiveness (knowledge)
- Level 2—Culture: complexity (conceptualization) and adaptability (flexibility)
- Level 3—People: teams (sensitivity), uncertainty (judgment), and learning (reflection).

In other words, to deal effectively with organizational strategy and structure (Level 1), global managers must learn to manage the competitive process. This is dependent on developing the technical, economic, political, and cultural knowledge to operate in a global environment.

Managing a global corporate culture (Level 2) requires the ability to simultaneously manage organizational complexity and adaptability. Global managers who successfully manage complexity are able to conceptually understand and focus the organization on the priorities necessary to achieving its strategic intent. When the corporate strategy has been formulated, a manager must then be flexible enough to put into place the values, norms, systems, and procedures that translate strategic intent into corporate culture and organizational operations.

To ensure that global strategy is fully implemented also requires alignment of the people (Level 3) in the organization. This requires sensitivity, judgment, and

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reflection. It is carried out through managing multicultural teams, learning to deal with uncertainty, and developing methods and time for personal and organizational learning.

This integrated approach to globalization combines well-known theories of organization change and alignment with the specific competencies that global managers must master. Managers at all levels of a globalizing organization need to master the six competencies for their own units, departments, or divisions, in order to ensure that their organization's global strategy is successfully carried out.

Global Competencies, Practices, and Tasks

One of the most important pieces of our framework for global managers involves the translation of the six competencies to specific practices and tasks. These practices and tasks are what enable a global manager to affect his or her environment.

A competency is a specific capacity to execute action at a skill level that is sufficient for achieving a desired effect. Each competency requires certain practices that, in turn, translate into series of tasks that effective global managers execute.

For example, a global manager who is successful at managing the competitive process (a competency) will need to constantly scan the global environment for potential competitors (a practice). To accomplish that, the manager may need to read different publications (a task), perhaps taking out a subscription to the *Asian Wall Street Journal* or *The Economist* to supplement his or her current reading of a local or national newspaper.

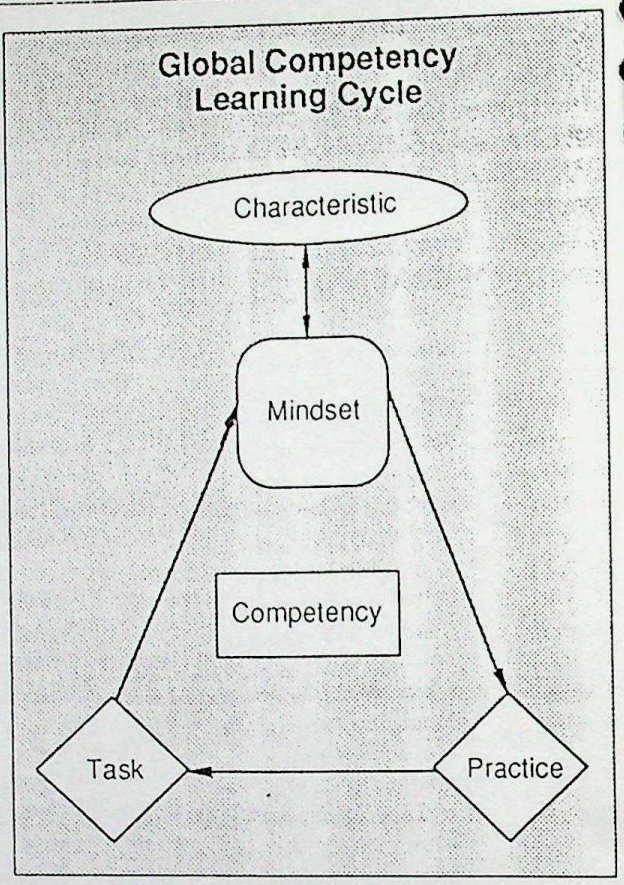
To manage complexity successfully (a competency), the global manager may have to manage relationships that are simultaneously cooperative and competitive (a practice), such as strategic alliances with foreign competitors. To do that well will require analytical skills (a characteristic) for determining which aspects of the relationship will be cooperative and which will be competitive, as well as the compartmentalization of information, decision-making, and operations (a task).

The last link in our framework involves an explanation of how all these variables relate to one another. I will try to explain the relationships in a way that enables you to understand and develop the mindsets, characteristics, and competencies that are necessary for performing the practices and tasks of effective global management.

The box, "the Global Competency Learning Cycle," diagrams the relationship among the different elements of the framework.

In this process, a competency is developed by the constant flow of Mindset to Practice to Task to Mindset. In the application of mindset to behavior, a global manager develops a competency. A mindset is not a competency. One can only have a competency when mindsets are turned into applied behavior.

In the same way, a characteristic is not a competency until it is applied in some way. A person can be flexible,



but flexibility does not become a global managerial competency until a manager uses his or her natural flexibility to adjust to changes in the organization and to adjust the organization to changes in the business environment.

Notice that characteristics are not part of the formal cycle. They exist either as contributing factors to the original mindset, or as a result of the competency learning cycle process.

An Integrated Framework

The six development clusters represent the essence and focus of the leadership development and training that are necessary to support the global enterprise. This integrated framework for globalization encompasses organizational analysis of strategy and structure, corporate culture, and people, as well as managerial mindsets, characteristics, and competencies.

I hope the message is clear. Global management is a complex business, but it can be exciting, challenging, and rewarding.

Few people have adequate preparation for leading global companies. We must work systematically to develop strategic plans that outline the human resource and corporate culture implications of new global strategies and structures. When we do, we will take a major step toward enabling our organizations to be more globally competitive—and toward enabling our global managers to be more fulfilled and effective.

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PREPARING MANAGERS FOR OVERSEAS ASSIGNMENTS

Source: "The Care and Breeding of Global Managers," by Beverly Geber, *TRAINING Magazine*, July 1992, pp. 32-37

Most companies that maintain a strong international presence today are paying much more attention to the development of their overseas managers than they did a few years ago, says the author. Managers at work in other countries experience many things they never would at home, not only in terms of intercultural relations but also in lessons in entrepreneurship unavailable in the domestic assignments. Companies are giving employees international experience much earlier than they used to, she says, and an overseas assignment today is likely to be an indication that a person is a high potential employee, and the assignment is seen as a route to a top spot. In fact, refusal of a global assignment can now mean career derailment. The author looks at experiences which Colgate-Palmolive, Johnson & Johnson, and Pepsi-Cola have had with training international managers, and then she focuses on the importance of finding the right managers to fill overseas positions. She identifies several success factors for overseas managers:

- Knowledge of the business,
- A high degree of flexibility and tolerance,
- The ability to work with people, and
- Adaptability—a quality that the author claims is very difficult to develop.

Many companies now hold training courses overseas, taking their US managers abroad for the sessions. Still others are incorporating cross-cultural awareness exercises into their usual management training courses. One other issue the author discusses is differences of opinion on the importance of foreign language training for overseas managers. (AN224)

ANOTHER PERSPECTIVE ON PREPARING MANAGERS FOR OVERSEAS ASSIGNMENTS

Source: "Challenges in the Education of the Contemporary U.S. International Manager," by Joseph A. Petrick and Lisa Russell-Robles, *The International Executive*, May-June 1992, pp. 251-261

US expatriate managers have a failure rate of 30% compared to 10% for comparable Japanese and Europeans, say the authors. One of the reasons is that 68% of US companies doing business abroad have no training programs to prepare expatriates. The authors discuss the profile of a successful international manager: cognitively complex, self-monitoring, boundary-spanning, globally-oriented, and geocentric. In addition, successful international managers intellectually and emotionally understand the value of orientations and their behavioral implications for home and host countries. What US managers need, they say, is systematic "training in how to cope with corporate and national culture changes, cross-cultural communications problems, differing acceptable management practice, and other market specific variables." They conclude with 4 recommendations: (1) inclusion of international management development as a strategic US corporate issue for global success, (2) alteration of current US corporate selection procedures, (3) expanded implementation of rigorous leading-edge international training programs, and (4) a renewed US corporate-academic-government collaborative partnership to enhance international competitiveness. (AN225.)

PREPARING MANAGERS TO WORK IN JAPAN

Source: "Japan-Bound Training," by Ernest Gundling, *Training & Development*, July 1992, pp. 41-44

Japan is not an easy place for non-Japanese to do business, but training can help to prepare managers for this assignment. First, the author examines some of the widely different cultural assumptions and expectations between the US and Japan. Next, the author proposes a 5-phase model for a training program to help managers prepare for work in Japan:

1. Developing rapport between the training organization and its US trainees,
2. Providing trainees with the necessary background and concepts to understand and integrate the more experiential aspects of their training to the new culture,
3. Simulating business situations which trainees are likely to encounter in Japan,
4. Analyzing reactions in the simulations and prioritizing the findings to share with the trainees, and
5. Following up whenever possible with the trainees at their worksites in Japan.

Finally, the author examines possible pitfalls for the trainer, particularly in dealing with resistance to the ways of the Japanese culture, and the offering criticism in a supportive and empathetic manner. (AN226)

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GLOBAL MANAGEMENT SIMULATION

Source: "A Global Management Development Laboratory for a Global World," by Bernard Keys and Robert Wells, *Journal of Management Development*, Vol. 11, No. 1 (1992), pp. 4-11

Development of global managers is becoming more urgent, say the authors. They describe the third edition of the *Multinational Management Game (MMG)*, and they enumerate some of the criteria which simulations must meet in order to adequately reflect the global market:

- Hi-tech products must be global; the basic product must be sold in all markets without major product modifications.
- A game must simulate full years, rather than quarters of a company's operation.
- The uniqueness of markets, customers, and economic factors within an individual country must be represented.
- The game should give experience in entering international markets from the position of a domestic market.
- A simulation should allow for rapid economic changes from country to country.
- A game must introduce unpredictable, high-impact events in order to simulate the global business environment.

The authors conclude by discussing feedback from 2 recent MMG experiences, one set from government employees and another from participants in an executive MBA program. (AN227)

B-5. MORE ON MANAGEMENT DEVELOPMENT

TDY 93/94 IN BRIEF

TRAINING FOR BOARDS OF DIRECTORS

Source: "Developing Competent Directors and Effective Boards," by Colin Coulson-Thomas, *Journal of Management Development*, Vol. 11, No. 1 (1992), pp. 39-49

Nine out of 10 directors do not receive any preparation for their role as a company director prior to their appointment, says the author, and over two-thirds do not receive any formal training afterward. While board development is often handled by CEOs rather than corporate trainers, the author outlines the issues for trainers who might become involved in the process. He covers: (1) types of boards and types of directors, (2) the role of the board, (3) accountability of board members, (4) the distinction between a director and a manager, (5) qualities of a good director, (6) selection processes for directors, (7) routes to the boardroom, (8) the role of an HRD manager on the board, (9) strategies for improving board effectiveness, (10) techniques for preparing directors for their appointments, and (11) the CEO's responsibilities for board development. (AN228)

TRAINING MODULE ON DELEGATION

Source: "Delegating Responsibility and Authority," by Paul C. Dinsmore, *Trainer's Workshop*, Vol. 6, No. 1 (1992), pp. 4-48

This is one of those training modules that almost every trainer can use at some time: delegation—good for supervisors at every level. The author approaches the subject in 7 practical, one-hour modules:

1. Delegation—What and Why?
2. Why Some People Don't Delegate
3. Authority versus Responsibility
4. Step by Step Delegation
5. Delegating by Degree
6. Avoiding the Stumbling Blocks
7. Delegation and Empowerment

The author includes all the instructor notes, transparency masters, and workpapers necessary to conduct the workshop. This module is unique among *Trainer's Workshop* issues in that it includes an optional "Delegation Game" to be conducted with a small group. The game's hypothetical situation is outlined, potential delegates described, and worksheets provided to help participants determine which tasks should be assigned to which persons, with the levels, limits, and standards of delegation spelled out for each delegate. (AN229)

JAPANESE TRAINING FOR EUROPEAN EXECUTIVES

Source: "'Sayonara' Ineptitude," by Alan Lawson *Executive Development*, Vol. 5, No. 1 (1992), pp. 13-14

This article describes the Executive Training Program (ETP), an 18-month, full-time program, based in Japan. The first part of the course, explains the author, is a one-

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year intensive language course, supplemented by weekly seminars and lectures given by prominent businessmen and academics—as well as factory visits. The objective of the language training is to allow participants to achieve a high level of competence in Japanese conversation and to be able to master reading and writing *hiragana* and *katakana* characters. The second part of the program is six-month, in-house, total immersion training within selected Japanese companies. The author spent time at Dentsu advertising company, Mitsubishi Bank, and one of the nine "big" trading companies. "In my opinion," he says, "the true value of ETP, and the factor that sets it above any other business language program, is this in-house training experience." The article concludes with some of the author's observations on Japanese approaches to human relationships, motivation, and the work ethic. (AN230)

PROJECT MANANGEMENT TRAINING

Source: "Projects and People," by Paul C. Dinsmore, *Trainer's Workshop*, May-June 1992, 48 pages

Managing project teams presents problems. "This module," explains the author, "presents the 'whys' of project problems and sets forth 'how to' routes for managing projects through the human element." The author begins with 2 premises: (1) people are the cause of a project's problems, and (2) a project's problems can be solved only by people. This one-day training module is designed for engineers and others who are serving as first-time technical project managers who need instruction in cross-functional and general management techniques. The program involves 6 sessions:

1. **The Nature of Projects.** Introduces and defines project management and discusses 8 management spheres: scope, time, money, quality, communication, contracts and supply, risk, and human resources.
2. **The Role of a Project Manager.** Describes roles in both hierarchical and matrix organizations.
3. **Projects and People.** Identifies the interests of various stakeholders: sponsors, clients, functional managers, internal or external suppliers, joint venture partners, and investors.
4. **Managing the Project Team.** Highlights the choosing of team members, time management, negotiation, conflict resolution, training, and communication.
5. **Project Planning.** Describes the elements of the project plan and early planning meetings.
6. **Structuring the Project Activities.** Introduces Work-Breakdown Structure and Gantt charts.

The module contains all the instructor's notes, transparency masters, and workpapers that a trainer would need to present the workshop. A bibliography is also included. (AN231)

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C. CAREER DEVELOPMENT

C-1. ADMINISTRATION OF CAREER DEVELOPMENT

MULTIFUNCTIONAL MANAGERIAL DEVELOPMENT: A FRAMEWORK FOR EVALUATING THE OPTIONS

by Daphna F. Raskas and Donald C. Hambrick

Consider the irony. The United States consists of an exceedingly diverse population, yet the career patterns in most American companies squeeze the ability to appreciate diversity out of each individual. Anyone from another function is "not one of us." After years of advancing through a specific function, the typical manager is a consummate, albeit parochial specialist: impeccably credentialed, but blundered in his or her perspective on the company and the competitive landscape. Attempts at communication and collaboration across functions—for product development, strategic problem-solving, or simple task execution—stop short at the gulf dividing expert domains.

In contrast, the Japanese have an extremely homogeneous society, but the career patterns in most major Japanese companies instill a remarkable diversity into each managerial employee. By moving every three to five years, often to new functional areas or new business units, these managers achieve a professional cosmopolitanism. When Japanese managers collaborate across functions, they come together as individuals who understand each other's perspectives, constraints, and vocabulary. They have "been in each other's shoes."

The architects of management development systems face a difficult dilemma: how to develop broad-gauged, flexible managers who are capable of adapting to the dynamic business environment of the future, while at the same time ensuring efficient managerial deployment for the rigors of today. Nowhere does the company face this dilemma more sharply than in deciding on its policy toward multifunctional management development—the organization's intentional efforts to enhance the capacity of managers by exposing them to multiple functions within the enterprise.

Advocates of multifunctional management development (MFD) abound, citing important advantages of managerial breadth and versatility. Their arguments, although sketchy, appeal at an intuitive level. Certainly, a few major American corporations (including Hewlett-Packard, 3M, American Express, Exxon, and Disney Productions) have benefitted over the years from their MFD programs. Yet, when we take a broad view, relatively few firms engage in extensive MFD. And some that tried it have backed away. Multifunctional management development appears not to be suitable for every company nor a universal contributor to corporate success.

When should a company engage in a policy of multifunctional management development? How should the company go about it? This article intends to provide insights and a framework for answering these important questions. First, however, we need to clarify what MFD is and is not and define the major costs and benefits involved. This leads to a proposed contingency framework for judging the appropriateness of MFD for a given situation. Finally, we address some of the practical problems of implementing MFD.

Our conclusions are based on our extensive exposure to management development practices in a number of American and international firms, as part of an ongoing program of research and consulting. The paper also relies in part on in-depth interviews with twenty-two managers in three pharmaceutical firms, each with a different approach to MFD. The managers interviewed included senior line executives, human resources executives, and mid-level managers—some of whom had multifunctional backgrounds and others who did not.

Interestingly, even though many writers and observers of the business scene have commented on the practice of MFD, our literature search failed to turn up a single article that has examined this important corporate choice systematically or analytically.

A Continuum of Options

The term "multifunctional development" typically connotes a program of complete mobility across an array of functional areas for the purpose of career development.

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EXHIBIT 1
CONTINUUM OF PRACTICAL OPTIONS FOR MULTIFUNCTIONAL MANAGERIAL DEVELOPMENT

- HIGH COMMITMENT
- COMPLETE MOBILITY ACROSS FUNCTIONS, I.E., "CAREER MAZE"
- TEMPORARY (SIX MONTH TO TWO YEAR) ASSIGNMENTS OUTSIDE THE PERSON'S "HOME FUNCTION"
- BRIEF, ORIENTATIONAL ROTATION THROUGH FUNCTIONS
- EXPOSURE TO OTHER FUNCTIONS ON TASK FORCES/PROJECT TEAMS
- CLASSROOM EDUCATION ABOUT OTHER FUNCTIONS
- LOW COMMITMENT

However, that is multifunctional managerial development at its extreme. Importantly, MFD is not an all-or-nothing proposition. Rather, an array of practical options exists.

These options lie along a continuum ranging from low to high degrees of commitment from the organization (see Exhibit 1). At the low-commitment end of the continuum, we find commensurately less investment and fewer benefits. Higher level options involve much greater organizational commitment and thus result in more in-depth exposure to various functional areas.

These options are not necessarily trade-offs for each other. In fact, we have observed a tendency for these programs to be "nested." For example, a company that uses a high-commitment policy of complete interfunctional mobility for managers will tend to engage in the less expensive, lower commitment approaches as well.

At the high end of the continuum is a systematic program that encourages individuals to engage in complete mobility across functions. Widely known for this approach, Hewlett-Packard refers to the "career maze" it makes available to employees. An employee may start in product design, move to marketing, then to manufacturing, then to customer service, and so on. Any number of paths is possible. Others refer to this pattern as a "career matrix." When it exists, the organization must have a number of other supporting elements in place, most notably a job-posting system and reward systems that encourage supervisors to give up key talent and take on technically lesser skilled individuals.

An MFD policy reflecting a somewhat lower level of organizational commitment may encourage managerial employees to retain a "home function" in which they have primary expertise and career aspirations, but take on periodic, short-term (typically six month to two year) assignments in other areas. For example, a newly hired marketing assistant may work in that capacity for three years, in information systems for one year, back to a higher level marketing job for four years, then a six-month special assignment in human resources, back to marketing, and so on. Such an approach results in what Learning International, a management-training firm, has termed a "T-shaped experience profile." The person develops one deep groove of professional identity (the stem of the "T"), but crosses, horizontally, into other functions.

The approach falling next on the continuum involves brief (one to three month) orientational "rotations" through several functions, often in succession. Again, the individual maintains a dominant functional area. Such rotations are often found as part of the training programs for newcomers to an organization. The purpose is to expose the new employee to multiple functions, sometimes for purposes of helping the individual select one area as a primary career track. These rotations are often included in the professional "apprenticeship" systems of European (particularly German) companies. Although we know of no instances in which companies use rotations for more advanced individuals, this kind of exposure, say for people after three to five years in the organization, could be extremely productive. This approach can be seen as a "middle of the road" policy, since it results in limited exposure to other functional areas without incurring the costs that a higher level of commitment entails.

Further down the continuum of MFD options is a policy that systematically exposes managers to new areas through involvement in multifunctional task forces and

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EXHIBIT 2
POTENTIAL BENEFITS AND COSTS OF MULTIFUNCTIONAL MANAGERIAL DEVELOPMENT

1ST ORDER BENEFITS

- Broadens the individual
- Establishes wider networks
- Expands mobility opportunities for key employees
- Allows "fresh perspective" in units

2ND ORDER BENEFITS

- Helps to develop general management talent
- Enhances tolerance for change
- Eases coordination problems; enhances innovation (including speed)
- Increases retention, motivation, and loyalty of employees
- Eliminates power differentials/ lopsidedness among functions
- Enhances adaptiveness and innovation

1ST ORDER COSTS

- Applies talents/aptitudes suboptimally
- Puts individuals in jobs for which they lack technical expertise
- Leads to salary homogenization
- Creates resentment among subordinates
- Throws employees "off track" in their functional careers
- May, in cases of too much mobility, create problems of accountability

2ND ORDER COSTS

- Dilutes functional strengths
- May lead to departure/demotivation of high grade functional specialists
- May lead to higher salaries than "necessary"/ above market norm
- Creates conditions for "half-baked," half-implemented initiatives

project teams. Participation in cross-functional groups allows managers to become acquainted with the perspectives and concerns of other departments in the organization while remaining in their own function. Naturally, companies create task teams for strategic and operational purposes, not for management development. But the benefits of task teams in this regard should not be overlooked, as such firms as Procter & Gamble, Digital Equipment, and 3M have learned. Ultimately, however, this relatively low-commitment approach yields minimal, superficial exposure to other functions and correspondingly little deviation from one's realm of expertise.

The MFD approach requiring the lowest level of organizational commitment is classroom education about other functions. This requires relatively little expenditure of time or resources and poses little deviation from the person's professional career track. It does, however, serve to familiarize managers with the constraints, objectives, and perspectives of other functional areas. Some organizations developing such management education programs find them of great benefit. GTE, for instance, provides an intensive two-week course for senior functional specialists whose tasks require significant interaction with other functions. The program includes action-learning projects that deal strictly with the multifunctional perspective.

In sum, a company has an extensive array of options for multifunctional development. The higher the level of commitment an organization is willing to make, the proportionately greater both the benefits and the costs.

Potential Benefits and Costs of MFD

Any management development initiative, including MFD, can be thought to have both first-order and second-order benefits and costs. First-order benefits and costs are short-run and occur when one or a handful of individuals are provided MFD opportunities. Second-order benefits and costs are longer term and accrue when a substantial and widespread program of MFD exists in the firm. In this section, we discuss both sets of benefits and costs (summarized above in Exhibit 2).

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Potential Benefits of MFD

Perhaps the most immediate benefit of multifunctional managerial development is that it "broadens" individuals, providing them at least multiple perspectives and, possibly, even multiple areas of expertise. Managers who have crossed functional lines will be more versatile and possess a wider perspective on the business environment than peers who operate strictly in one function. By following multifunctional career paths, managers may be considered experts in the organization's total environment. They are prepared to be general managers, responsible for orchestrating multiple functions.

Moreover, multifunctional development may enhance the adaptiveness of managers and increase their tolerance for change. In fact, MFD can promote a greater capacity for learning, especially for learning how to adapt to change and deal successfully with novelty and uncertainty. In this vein, some commentators credit multifunctional movement with imbuing Japanese executives with enviable open-mindedness and flexibility.

Lateral movements enable managers to establish broader networks and to become acquainted with peers, key executives, and important external constituencies. MFD exposes the manager not only to a wide range of people, but also to a wide variety of processes and technologies. These broader networks help to minimize coordination problems among sub-units, greatly facilitating innovation. Consider, for example, a product development effort. If several of the parties involved have worked in other functions, they can quickly understand each other's vocabularies, constraints, and options. Not surprisingly, companies such as Toyota, 3M, and Motorola have discovered that product development teams made up of individuals who have multifunctional experience tend to achieve a much faster time-to-market than do teams made up of single function specialists.

Clearly, by increasing the visibility of up-and-coming managers within the firm, MFD programs also serve to expand their internal mobility opportunities. As a result, the company may see these individuals become highly motivated—and choose to stay longer. This is particularly crucial in this era of "delayering," which has severely slowed the rate of promotion within the employee's primary function.

MFD helps articulate a firm's unique corporate culture to the manager and enables the manager to see the consistency of the company's values and norms across functions. With an enhanced understanding of the overall organization and its parts, managers are better able to clarify their career goals within the firm and may thus increase their commitment to the firm. As managers become "experts" in the total organization, they may not be as easily interchangeable with their counterparts in other companies; they have adopted a set of perspectives and values unique to their organization.

Cross-functional mobility also helps to eliminate power and prestige differentials among functions. When managers—sometimes the very best managers—move among functions, they do not serve their own interests by perpetuating any lopsidedness in the status or influence of different areas. All functions potentially have access to the same array of talent.

Finally, exposure to different functional areas enables managers to gain a basic understanding of the web of relationships that knit the various parts of the organization together. Thus it is likely that individuals who have experience in various functional areas will bring fresh perspectives with them into their work units. They will have the benefit of being newcomers to a problem, not bound by conventional wisdom or the prevailing logic. This less-entrenched perspective, in turn, helps the host function and the organization as a whole become more innovative and adaptive.

Potential Costs of MFD

Some of these are rarely articulated and not always obvious. Perhaps most importantly, multifunctional career paths can force a manager to sacrifice the benefits of specialization and professional expertise associated with career focus. Those who are trained in a given area and then cross over to unfamiliar ground are, at least in the short term, applying their expertise suboptimally. This, in turn, may result in the long-term dilution of their functional competencies. Meanwhile, the knowledge base in their own professional fields continues to evolve, and peers pass them by.

Another cost is the diminution of professional expertise in a function itself, since it will be populated in part by individuals who are not fully trained in the area. This can result in the dilution of critical functional strengths. High-grade functional specialists who are not interested in (or eligible for) cross-function assignments may become demotivated and even leave, disturbed by the way "amateurs" have lowered the group's technical competence.

In a similar vein, subordinates can potentially resent the "newcomer" manager as someone who lacks their familiarity with the function's norms and technical requirements. In fact, well-educated technical professionals quickly lose respect for managers who fail to measure up to their high standards of technical competency. This problem is aggravated when staff members aspire to the management post now filled by the outsider. Such resentment, in addition to dampening motivation, can similarly prompt high grade specialists to resign.

An additional, and often unexpected, cost of multifunctional mobility is its tendency to homogenize salaries across functions, ultimately yielding salaries higher than are needed for market conditions. Take the case of the high-level marketing manager who is asked to take a position in customer service. The person's pay will be kept intact, or possibly even increased, even though industry-wide pay for customer service managers lags well below pay for marketing managers. Multiply this by

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EXHIBIT 3
THE FACTORS AFFECTING THE CHOICE OF MFD APPROACH

CONTEXTUAL FACTOR	FAVORS LOW-COMMITMENT APPROACHES TO MFD	FAVORS HIGH-COMMITMENT APPROACHES TO MFD
Business Strategy	Defender	Prospector
Culture	Market	Clan
Functions Involved	Highly technical with considerable advanced knowledge requirements	Nontechnical with minimal advanced knowledge requirements
Person	Risk-averse; low tolerance for ambiguity	Risk-prone; high tolerance for ambiguity

all such cross-functional transfers, and then add the subtle but natural tendency, out of a concern for equity, to raise the pay of everyone in a function to the level of the nonprofessional who is passing through. The result is clear: a relative homogenization of pay across functions, despite market differentials; and, for many, higher pay than may be required to retain them.

It can also be argued that multifunctional managerial development often throws managers permanently "off-track" from their functional careers. This too can lead to the departure and demotivation of high-grade functional specialists.

Accountability problems, resulting from too much rapid mobility, represent still another cost area. When a manager sees a job as being temporary and outside of his or her primary field, it may be difficult to instill and determine accountability for projects. If such problems result, the organization may face a morass of poorly conceived and half-implemented initiatives.

These, then, are some of the major benefits and costs of MFD programs. Clearly the cost-benefit balance for each organization will vary. As a rule of thumb, however, one might argue that for organizations primarily concerned with the short term, the potential costs of MFD will almost certainly outweigh the potential benefits. On the other hand, for organizations willing to incur short-term costs, the longer term or second-order benefits are likely to prove more appealing.

What kinds of organizations are likely to benefit most from high-commitment approaches to multifunctional development? Which organizations are likely to benefit the least? We provide a framework for answer in these questions in the next section.

A Contingency Approach to Multifunctional Management Development

The architects who design a company's policies and procedures must do so with an eye to the broader organizational context, taking into account a variety of internal and external factors. We propose that any organization considering MFD should consider four major contextual factors: business strategy, organizational culture, the functions involved, and the individual manager. (See Exhibit 3.)

Business Strategy

Each business has its own particular competitive strategy. One common distinction identifies strategic profiles in terms of two common clusters. *Prospectors* are characterized by a great deal of product innovation. These companies tend to be in industries with highly differentiable products, each product category exemplifying a variety of features and variations. *Defenders*, on the other hand, serve a stable product-market domain, but with an emphasis on efficiency or superior quality. Defenders are primarily in commodity-like industries in which products are not highly differentiable, or perhaps differentiable on only one or two dimensions.

In general, the more Prospector-like the business strategy, the greater the relative benefits of substantial multifunctional development for managers. Under such a strategy, innovation is the key. Cross-functional collaboration, on a timely basis, is of paramount concern. The shared perspectives and enhanced networks result-

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TDY 93/94 RESEARCH SUMMARY: SURVEY OF STRUCTURED JOB ROTATION

Source: "Structured Management Job Rotation Programs," by William J. Rothwell, *et al., Performance & Instruction*, November-December 1992, pp. 32-37

Management job rotation (MJR) is a potentialy powerful tool for management development, particularly in times of corporate downsizing and reduced management layers in companies. This article examines some of the purposes of MJR: (1) grooming high potential managers for positions of greater responsibility, (2) building skills by giving managers experience with new work assignments, duties, etc., (3) exposing managers to new parts of their organization, (4) illustrating contrasting leadership styles, (5) furnishing managers with opportunities to forge new interpersonal relationships, and (6) addressing the career burnout of otherwise productive performers. MJR assignments, note the authors, may be planned or unplanned, and they can feature either single or multiple experiences. The authors conducted a survey of finance/insurance/real estate companies to determine who uses MJR programs and why. Among their findings was that most respondents agree that management rotation programs are more effective than unstructured management development programs. The authors discuss several steps for establishing an MJR program:

- Verify the need for MJR.
- Assess top management support and commitment.
- Focus on meeting needs.
- Build partnerships and secure cooperation.
- Provide structure by clarifying duties, accountabilities, and expected learning outcomes before each rotation.
- Allow for feedback.

A sidebar features suggested readings on this subject. (AN232)

ing from MFD will help greatly in these areas. Moreover, to the extent that MFD enhances managers' innovative capacities and their tolerance for change, the Prospector business benefits by its adoption. Two well-known Prospectors, Hewlett-Packard and American Express Travel-Related Services, engage in considerable high-commitment MFD activity. In our interviews in the pharmaceutical industry, the same pattern was apparent. Conversely, Defender businesses will tend to find that the costs of MFD outweigh the benefits. With the Defender strategy, efficiency and/or reliable quality is essential. There is little room for people to work in areas outside their realm of expertise, since costs and quality could suffer greatly. Therefore, Defenders may wish to adopt some of the low-commitment approaches to MFD, e.g., brief rotation or classroom exposure to different functions, if they undertake any such activity at all.

Culture

Some organizational cultures favor, perhaps even necessitate, significant MFD, while other cultures do not. A useful, now widely documented distinction is made between *clan* and *market* cultures. Essentially, a *clan* is held together by a common set of intensely socialized values. The relationship between the individual manager and the organization is fraternal. There is mutual long-term commitment, as well as a sense of tradition and pride in membership. A *market*, on the other hand, is a firm whose relationship with the individual manager is strictly contractual. Either the firm or the individual may terminate the contract when a better alternative arises. Control systems focus on quantifiable, short-term factors that indicate contractual fulfillment. There is also an abundance of outside managerial hiring by market-culture firms.

It should be clear that the clan culture favors a substantial amount of MFD. Cross-functional movement of individuals enhances the socialization and the dissemination of values critical for the clan. In addition, the expectation of a long-term relationship makes some of the deferred benefits of MFD—particularly the development of high-grade general management talent—far more favorable and realistic. It is not surprising that experts on corporate culture see Hewlett-Packard, widely noted for its aggressive use of multifunctional managerial development, as one of America's most "clan-like" major corporations.

The market-like organization, in contrast, may find little benefit in an aggressive MFD program. Everyone

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expects that the employee has been hired to do some current job well, not to prepare for future jobs. If new skills are needed, the external labor market provides these. Since unit managers are evaluated on short-term quantitative indicators, they are generally quite unwilling to accept someone who, under the claim of multifunctional development, is not trained or equipped to do a job well at the outset. In sum, if the market-like organization attempts any MFD, it probably should be limited to the low-commit ment approaches discussed earlier.

Functions Involved

So far, we have spoken of MFD without singling out any specific functional areas as being most or least appropriate to such policies. Naturally, the task and career requirements of different functions vary widely, and it may be that no firm can think about symmetric, multi-directional talent flows among all functions.

It is particularly useful to consider the functional area's degree of technical sophistication. Some areas are extremely complex or arcane, requiring that employees have advanced education and/or many years of experience to perform satisfactorily. Other functions do not have such restrictions, and newcomers or short-term employees can more easily understand the critical issues within the function and perform competently, possibly bringing fresh and useful insight to the area.

Naturally, the more technically sophisticated the area, the less viable it is for employees from other areas to be productive in it: The professional rigors of the field are just too great. Correspondingly, the people trained in a highly technical field may not find rotation appropriate, since such excursions could cause them to fall far behind the challenges within their own professions. In this vein, several of the pharmaceutical firms we studied limited cross-functional mobility strictly to functions other than R&D. Untrained individuals could not contribute to such esoteric activity (even in a managerial capacity, both for reasons of knowledge and stature). Allowing R&D professionals to migrate out of R&D temporarily would result in a serious dilution of technical sophistication. Of course, the latter ceases to be a problem if an individual wishes to move away, permanently, from his/her original technical field, as is sometimes the case.

There is no standard way to rate functions according to level of technical sophistication. For one thing, the sophistication of a given area, e.g., finance, differs from industry to industry. Moreover, sub-functions exist, such as the areas of benefits and training within the human resources department. Each firm must decide for itself what the absolute and relative requirements are for various areas. Those deemed less technical may be amenable to aggressive approaches to MFD. For more technical fields, less intense attempts at MFD will be appropriate.

The Person

We turn now to the narrowest, most specific consideration of all: the individual. MFD is not equally appropriate for all employees, and some emerging managers can benefit far more than others from extensive multifunctional development. In fact, several of the managers we interviewed cautioned that the selection of a particular multifunctional development option must be person-dependent.

Although we might well consider a variety of dimensions for describing employees, we will focus on two closely associated traits: degree of risk-propensity and tolerance for ambiguity. Studies show that organizational members, including managers, vary widely in how much they relish the unfamiliar and unclear, and in their tendency to take business and personal risks.

Risk-prone managers believe that frequent change is not only necessary but also beneficial for their own development. While pursuing challenging careers within their company, these individuals typically remain highly responsive to opportunities at other firms as well. Conversely, risk-averse managers believe that too much change results in disorder and chaos. They favor stable work environments. Unlike their risk-prone co-workers, risk-averse managers are unlikely to search actively for job opportunities elsewhere unless they experience considerable job dissatisfaction or insecurity.

Since risk-prone managers are likely to view change in a positive manner, the organization might well consider a high-commitment, complete-mobility approach to multifunctional managerial development for these individuals. They will welcome the chal lenges, actively work toward broadening their networks, and relish the opportunity for internal mobility. In terms of long-range organizational benefits, these managers are likely to develop strong commitments to the organization, with decreased responsiveness to opportunities at other firms.

For the risk-avoiders, the implications for multifunctional development are very different. Since such individuals prefer sta bility to mobility, the intended benefits of cross-functional assignments would be lost on them, possibly even counterproductive. Here, the organization should consider the low-commitment approaches to broadening the horizons of such individuals, as outlined earber. For the most risk-averse individuals, classroom education about other functions may be the only nonthreatening means of exposing them to the organization-at-large. For individuals who resist complete mobility but show interest in being exposed to other areas, other options, such as participation in task force projects, may be appropriate. In general, though, it is apparent that the organization needs to tailor its MFD programs to the requirements, readiness, and preferences of individual managers.

It is quite clear, then, that anyone considering MFD should align contextual factors with the various options available. Further research is necessary to test our assertions and to identify additional organizational contexts of importance to MFD choices. Indeed, we hope that the exploration of extreme archetypes for each contextual dimension, as presented here, will encourage future study of hybrid contextual types.

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CASE STUDY: HIGH-LEVEL CAREER DEVELOPMENT AT GTE CORPORATION

Source: "GTE Managers on the Move," by Neville C. Tompkins, *Personnel Journal*, August 1992, pp. 86-91

Despite the recession, GTE has managed to maintain a vigorous management development effort, promoting and relocating over 1000 key managers, professionals, and executives yearly. Management relocation and rotation is a vital part of GTE's business, which sprawls over 40 states, Canada, Venezuela, and the Dominican Republic. Corporate human resources monitors all executive moves and undertakes an annual review of the company's high potential managers, in an effort to ensure that these people have sufficient career experiences to maximize their value to the company. The author explains this tracking, which affects over 500 people within the company yearly, and he details the selection process that the management development department goes through to find the right candidate for each new opening. Executive and management education is another important part of the experience cycle for GTE managers, and the author explains the activity of the company's management education center in Norwalk, CT, which offers supervisory and managerial courses on a year-round basis. An active college recruiting program is also part of GTE's management development philosophy, as is affirmative action. (AN233)

Implementation of Multifunctional Development Programs

Creating and maintaining an MFD program—particularly at a level of high commitment—is not easy. At the most basic level, large, bureaucratic organizations tend to resist lateral initiatives of all types. In addition, a systematic program of MFD is expensive in the short run, inevitably placing some talented functional specialists in roles for which they are not ideally suited. In an era of intense competition, cost pressure, and downsizing, a program of MFD may strike many as a frill the company can very well do without.

Yet, for some organizations, the long-term benefits of MFD clearly outweigh the costs. For these firms, investments in people are as important as investments in R&D, new plants, or advertising. A number of companies have already adopted ambitious MFD programs, often with great benefit. From them, we have learned some critical lessons about how to make such endeavors flourish and contribute to the long-term fitness of the firm.

Reward System

The most critical lesson that organizations attempting MFD-both successfully and unsuccessfully—have learned is that the program must be supported by a corporate reward system. This includes rewards for superiors as well as for the individuals being developed cross-functionally.

Unit heads need to be rewarded in part for their constructive and conscientious support of the company's MFD agenda. They must be evaluated for their willingness to accept and enhance individuals from outside their function, as well as for relinquishing talent to other functions as appropriate to an individual's development. In Manuel London's study of development practices in a wide variety of companies, many managers pointed out that even though they felt the development of subordinates was an important part of their job, they tended to neglect this activity because it was not evaluated or rewarded by higher level managers. Since unit heads typically receive little or no direct benefit from the multifunctional development of subordinates, they need to be amply and clearly rewarded for their support of such a system. Clearly, formulaic reward criteria, tied strictly to current unit efficiency, will not encourage such behaviors.

Information System

Companies that have successfully benefitted from MFD programs have found that a well developed, centralized human resources information system, coupled with a full and fair job posting process, is critical. According to our interviews, supervisors need reliable and extensive information on who is available and well suited for cross-functional movement. Similarly, individuals who are eligible and eager for cross-functional movement need to know about available opportunities within the company. The informational infrastructure must help create the most fluid, efficient internal labor market possible.

Avoid "Dumping"

A sure way to doom a program of multifunctional development is to let it gain the reputation of being a "dumping process." This occurs when the only people

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selected for cross-functional movement are those who perform poorly or plateau in their original functional areas. The company tries to find havens for them. To compound the problem, the organization often moves individuals to the same one or two functions—those some how deemed non-critical or non-taxing—thus creating clear "dumping grounds." When the company has a record of doing this, it is extremely difficult to switch gears and ask star performers to consider developmental moves to other functions. To minimize this problem, the company should signal that cross-functional moves serve multiple purposes, including the grooming of tomorrow's general managers; as many functions as practicable should participate in the rotation process.

Evaluate the Program

A final element of MFD success, which, to put it bluntly, few companies attend to, is the ongoing evaluation and refinement of the process. Attempts to engage in MFD almost always face a rocky road. However, there are often patterns in the problems encountered, as well as in the successes experienced. These patterns are most readily discernible if a systematic evaluation process is in place. Given such an evaluation process, refinements can be made in the critical variables of MFD: Who is selected? At which point in their careers? In which functions should they be placed? How should supervisors be coached and trained about putting such people to best use? Only if the company has the capacity for systematic reflection and reassessment can these MFD programs achieve their full potential benefits. In our observation, the benefits can be very substantial for some companies, but the road leading to them can be full of obstacles, twists, and turns.

Summary

Multifunctional management development is not for every company, nor is it for every individual within a company. However, MFD can be a critical ingredient in overcoming the stagnation of long job tenures typical of today's delayered organizations. Moreover, MFD can be a powerful tool for enhancing managerial talent for the dynamic rigors of today's and tomorrow's competitive marketplace. This potential importance of MFD was reflected in a large worldwide study of CEOs conducted by Columbia University and Korn/Ferry International. Asked to describe the ideal preparation for their successors in the year 2000, over 69 percent of the respondents rated "experience in multiple functions" as important for the future leaders of their firms.

We encourage companies to look systematically and creatively at this major avenue for managerial development.

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OCCUPATIONAL ADVANCEMENT FROM WITHIN

by Max Carey

Most employers offer employees different ways to progress within their company or organization. A promotion usually means a pay raise, sometimes accompanied by other benefits such as a better office or a company car. It may mean a change in job duties, greater authority and responsibility, and a chance to learn new skills. A move up the career ladder also may change a person's occupation. The Bureau of Labor Statistics does not have statistics on all the ways employees advance in their jobs. Data are available, however from the January 1987 Current Population Survey on workers who progressed within their employing organization by changing their occupation. This article examines the characteristics of these workers and their occupational moves.

Occupational Mobility Rates

Of the 100.1 million persons who were working both in January 1986 and January 1987, almost 10 million had changed their occupation during this period. Almost 5.3 million of them voluntarily switched to a new occupation, citing better pay, advancement opportunities, or working conditions as their reasons for shifting; the remainder gave other reasons for having a new occupation, including the loss of previous job, a move to a different residence, and a switch from part-time to full-time work. Although 3.2 million of the workers who voluntarily changed occupations also changed their employer, this article focuses on the 2 million others who chose to change occupations within their employing organization (company, government agency, nonprofit concern). More than three-fourths of the later reported earnings in their new jobs, which means they received promotions from their employers.

The occupational mobility rate measures the incidence of occupational change in a period. Since 2 million of the 100.1 million persons employed both in January 1986 and January 1987 had voluntarily switched to a new occupation within their employing organizations, the mobility rate within an organization for the labor force was only 2 percent for the 12-month period. The rate varied, however, depending on worker characteristics, such as age, education, job tenure, occupation, and industry.

Voluntary occupational mobility rates within employing organizations were similar for men and women, but tended to diminish with age for both sexes, declining from 3.6 percent for persons 20-24 years old to 0.6 percent for those age 50 or over. Interestingly, persons ages 16 to 19 had a lower rate than those in their twenties, probably because many teenagers seek only temporary income and leave the employer before opportunities for promotions arise. The likelihood of workers switching occupations also declined as their years of tenure with the employer grew. For example, workers who had been with their employer 1 to 2 years had a mobility rate of 4.1 percent, compared to 1.2 percent for those who had been with their employer 10 years or more. It is not surprising that occupational advancement diminishes with age and tenure. Organizational hierarchies tend to be pyramidal, with more room at the bottom than at the top of a ladder; and, consequently, the probability of advancement is greater in an employee's early years with a firm.

The 2.1 percent voluntary occupational mobility rate for high school graduates was almost double the 1.2-percent rate for less educated workers, which suggests that a high school diploma was a minimum requirement for promotion in many firms. College educated workers had somewhat greater rates than high school graduates, and higher education was a factor in continued advancement through occupational change within employing organizations. Workers who had 4 years of college or more accounted for 23 percent of the job-changers with 1 to 2 years of employer tenure, 26 percent of those with 3 to 4 years, and 30 percent of those with 5 years or more, which probably means that college graduates were not reaching a plateau in their careers as early as their coworkers.

Opportunities for progressing within organizations by changing occupations generally are best in large companies, which tend to have more layers of occupations than small firms. This factor helps explain the relatively high, 2.8 percent rate of voluntary occupational mobility in manufacturing, an industry made up of larger-than-aver-

From *Occupational Outlook Quarterly*, Winter 1991/92, pp 19-25. Max Carey is an economist in the Office of Employment Projections, Bureau of Labor Statistics, U.S. Department of Labor.

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age firms. Although manufacturing accounts for only one-fifth of total employment, it accounts for almost one-half of all employment in companies that had 500 employees or more. The construction industry in contrast, which had a 1.1-percent rate of voluntary occupational mobility, is characterized by relatively small companies.

The movement of workers between occupations inside their employing organization may be measured by exit and entry rates. The exit rate for an occupation is the percentage of its workers in January 1986 who had voluntarily gone to other occupations by January 1987; conversely, the entry rate is the percentage of an occupation's workers in January 1987 who had voluntarily transferred from other occupations since January 1986. Entry and exit data are presented in table 2. The table is based on data for all detailed occupations, although only the average for occupations in a major group is given. For example, a typist promoted to secretary is counted as both an exit from and an entry to the administrative support occupational group. Nevertheless, differences between the rates indicate which occupational group's workers are most likely to voluntarily enter or leave within their firm.

Entry rates were greater than exit rates for occupations in three occupational groups: executive, administrative, and managerial; technicians and related support; and precision production, craft, and repair. The 3.5-percent entry rate for the managerial group was more than double the 1.7- percent exit rate, indicating a relatively large net inflow of workers. Net inflows into the technician and craft groups were modest by comparison. Indeed, the gain in managerial jobs was more than 5 times the gain in the two other groups combined.

Not surprisingly, earnings were very high for workers in managerial jobs and above average for technicians and craft workers. Occupations with relatively low earnings had a net loss of workers. This is the major reason that the exit rate for service occupations was almost double the entry rate, the difference representing 112,000 workers who advanced to better jobs. Relatively low earnings also contributed to the net outflows in two other groups: administrative support workers including clerical; and operators, fabricators, and laborers.

Earnings, however, do not always explain the differences in exit and entry rates. The professional specialty occupations had an exit rate slightly higher than their entry rate despite the relatively high salaries in these fields. In this case, the entry rate is lower than might be expected mainly because employers fill many job openings in these occupations by hiring recent college graduates rather than by promoting employees.

In each of the major groups, the data for some detailed occupations were atypical. For example, although administrative support occupations as a whole experienced a net outflow, workers were more likely to advance into jobs as office supervisors, computer operators, production coordinators, and insurance adjusters, examiners, and investigators than to advance from them. In the operator group, the same was true for motor vehicle operator supervisors, industrial truck and tractor equipment operators, and production inspectors, checkers, and examiners. Although there was no net change in sales occupations as a whole, the number of workers who advanced in their employing organization from cashier to a better job was more than three times the number who advanced to cashier from a lesser job.

Generally, occupations that had high entry rates had low exit rates and vice versa. However, some occupations were entered and left by roughly the same number of workers. These occupations included administrators and officials, public administration; underwriters and other financial officers; investigators and adjusters, except insurance; traffic, shipping, and receiving clerks; and supervisors, food preparation and service. Many of these occupations provide lower-to mid-level jobs that employees pass through on their advancement paths.

Those Who Stay, Those Who Switch

The characteristics of workers who stay with their employers differ somewhat from the characteristics of those who change employers. Differences include earnings, age, tenure with the employer, education, and occupation. Compared to workers who changed both occupation and employer, those who stayed with the same employer were more likely to earn higher wages in their new occupation. They also tended to be older, have more tenure with the employer, and be better educated. Workers staying with their firms were also more likely to enter occupations in such groups as executive, administrative, and managerial; professional specialty, or precision production, craft, and repair.

About 77 percent of the persons who voluntarily switched their occupation and stayed with their employer reported receiving higher pay, compared to 69 percent of the persons who changed both occupation and employer. Workers who reported lower pay in their new jobs represented only 6 percent of those who stayed with their employer, but almost 14 percent of those who made a dual change.

While age and tenure decrease the probability of a voluntary change in occupations overall, they increase the probability that it will occur inside rather than outside the firm. Only 17 percent of all workers ages 16 to 19 who advanced occupationally did so within their organizations, compared to 30 percent of those ages 20 to 24, and 41 percent of those ages 25 to 29. The pattern was similar when years of tenure in the worker's previous occupation were considered—the longer the tenure, the more likely the occupational change took place within the firm.

Education also increased the likelihood of occupational advancement occurring inside the employing organization. Almost one half of all college graduates who advanced occupationally stayed with their employers, compared to less than two-fifths of the high school graduates, and only one-fourth of the workers who had fewer than 4 years of high school. Recent completion of education or training programs were linked to voluntary

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Table 1. Total workers employed both in January 1986 and January 1987, workers who voluntarily changed their occupation during this period, and workers who did so within their employing organization, by selected characteristics, January 1987.

Characteristic	Total workers employed both in January 1986 and January 1987 (thousands)	All workers who voluntarily changed their occupation (thousands)	Workers who voluntarily changed occupations within their employing organizations		
			Number (thousands)	Percent of	
				Total workers	All who changed
Total, age 16 and over	100,123	5,273	2,040	2.0	38.7
Men	56,413	2,817	1,058	1.9	37.6
Women	43,710	2,456	982	2.2	40.0
Age					
16-19	3,438	520	88	2.6	16.9
20-24	11,198	1,342	407	3.6	30.3
25-29	15,117	1,153	471	3.1	40.8
30-39	28,809	1,412	653	2.3	46.2
40-49	20,389	600	285	1.4	47.5
50 and over	21,172	247	136	0.6	55.1
Tenure with employer					
Less than 1 year	13,692	n/a	n/a	-	-
I to 2 years	21,138	n/a	860	4.1	-
3 to 4 years	15,250	n/a	432	2.8	-
5 to 9 years	20,868	n/a	403	1.9	-
10 or more years	29,175	n/a	345	1.2	-
Tenure in previous occupation					
Less than 1 year	n/a	592	171	-	28.9
I to 2 years	n/a	2,289	811	-	35.4
3 to 4 years	n/a	974	369	-	37.9
5 to 9 years	n/a	876	415	-	47.3
10 or more years	n/a	542	274	-	50.6
Education					
Less than 4 years of high school	14,914	685	183	1.2	26.7
4 years of high school	40,524	2,163	838	2.1	38.7
1-3 years of college	20,972	1,301	487	2.3	37.4
4 years of college or more	23,713	1,123	531	2.2	47.2
Industry					
Agriculture	2,668	42	2	0.1	4.8
Mining	822	24	14	1.7	58.3
Construction	6,434	291	71	1.1	24.4
Manufacturing	19,406	1,066	539	2.8	50.6
Transportation and public utilities	7,406	412	182	2.5	44.2
Wholesale and retail trade	19,511	1,231	446	2.3	36.2
Finance, insurance, and real estate	7,094	565	220	3.1	38.9
Services	31,858	1,397	446	1.4	31.9
Public administration	4,925	247	121	2.5	49.0

n/a =not available

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occupational shifts in some cases. Employer training programs had been completed since January 1986 by almost 16 percent of the workers who changed only their occupation, compared to 8 percent of those who changed their employer too.

Although persons who remained with their employers represented less than 39 percent of all workers who voluntarily changed occupations, they made up almost 55 percent of those who switched to executive, administrative and managerial occupations, the largest proportion of any occupational group. The proportion was even greater for some detailed occupations in the group, including marketing, advertising, and public relations managers (89 percent); wholesale and retail buyers (65 percent); and financial managers (63 percent). Many employers encourage employee loyalty and limit turnover by trying to fill managerial positions from their staff of experienced workers. Moreover, these positions frequently require training and knowledge specific to the firm, which few applicants from the outside possess. For similar reasons, a higher than average proportion of individuals who voluntarily switched to professional specialty occupations and precision production, craft, and repair occupations made these changes without leaving their employers. Among these two groups, the workers most likely to have reached their jobs through inside advancement were computer systems analysts and production supervisors.

Only 26 percent of the workers who switched to a job in a service occupation stayed with their employer. Although many service occupations require particular skills, relatively few require firm-specific knowledge and training, and thus jobs usually are filled from outside the employing organization. The same can be said for operators, fabricators, and laborers only 30 percent of the workers who voluntarily switched to an occupation in this group did so without changing their employer. However, the proportion was relatively high among production inspectors, checkers, and examiners (58 percent), and industrial truck and tractor equipment operators (52 percent).

The Impact of In-House Advancement

Employees who move up in their organizations by changing occupations fill job openings that otherwise might be offered to the unemployed or jobseekers from other firms. The impact of in-house advancement can be shown by comparing the number of workers who voluntary entered an occupation from within their organization to the total number of entrants to the occupation.

In addition to the almost 10 million workers who changed occupations between January 1986 and January 1987, almost 9 million other persons who were not working in January 1986 found jobs, bringing the total number of occupational entrants to almost 19 million for this 12-month period. Of the total entrants, 2 million or an average of only 11 percent, had voluntarily changed from other occupations in their organization. As table 3 shows, however, this average was greatly exceeded in many supervisory and managerial occupations. For example, 50 percent of all individuals who became supervisors of mechanics and repairers during January 1986-87 had moved up from other occupations inside their firm. Employees who advanced inside also represented almost one-half of the workers who entered jobs as production occupation supervisors, computer systems analysts and scientists, general office supervisors, and financial managers. In contrast, employees who advanced inside represented less than 5 percent of the workers who entered jobs as cashiers, nursing aides, and janitors.

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Table 2. Voluntary occupational exit and entry rates within employing organizations, January 1986-87

Occupational group	Exits		Entrants	
	Number (thousands)	Rate	Number (thousands)	Rate
Executive, administrative, and managerial	212	1.7	436	3.5
Professional specialty	197	1.4	181	1.3
Technicians and related support	46	1.6	54	1.8
Sales	258	2.2	253	2.2
Administrative support occupations including clerical	507	3.1	439	2.7
Service workers	266	2.1	154	1.2
Precision production, craft, and repair	194	1.5	230	1.8
Operators, fabricators, laborers	342	2.3	284	1.9
Machine operators, assemblers, and inspectors	168	2.4	126	1.8
Transportation and material moving	60	1.4	78	1.8
Handlers, equipment cleaners, and laborers	114	3.0	80	2.1
Farming, forestry, fishing	18	0.7	9	0.4

Table 3. Persons who voluntarily changed occupations within their employing organization as a percent of all persons who entered occupations, January 1986-87.

(Numbers in thousands, ranked by percent of voluntary entrants[1])

January 1987 occupation	Total number of entrants	Voluntary entrants from within the organization	
		Number	Percent of total
All occupations	18,923	2,040	11
Supervisors, mechanics and repairers	20	10	50
Supervisors, production occupations	147	71	48
Computer systems analysts and scientists	43	20	47
Supervisors, general office	26	12	46
Financial managers	38	17	45
Managers, marketing, advertising, and public relations	54	24	44
Production coordinators	35	15	43
Buyers, wholesale and retail, except farm products	41	17	41
Correctional institution officers	25	10	40
Postal clerks, except mail carriers	30	11	37
Underwriters and other financial officers	94	31	33
Investigators and adjusters, except insurance	100	28	28
Social workers	85	22	26
Administrators, education and related fields	63	16	25
Production inspectors, checkers, and examiners	96	23	24
Machinists	45	11	24
Securities and financial services sales representatives	61	14	23
Accountants and auditors	145	29	20
Sales representatives, commodities, except retail	177	35	20
Mail clerks, except postal service	69	14	20

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Table 3. Persons who voluntarily changed occupations within their employing organization as a percent of all persons who entered occupations, January 1986-87 (cont.).

January 1987 occupation	Total number of entrants	Voluntary entrants from within the organization	
		Number	Percent of total
Administrators and officials, public administration	62	12	19
General office clerks	163	30	18
Industrial truck and tractor equipment operators	78	14	18
Traffic, shipping, and receiving clerks	109	17	16
Computer operators	190	27	14
Registered nurses	154	21	14
Supervisors, food preparation and service occupations	102	14	14
Insurance sales workers	78	10	13
Bookkeeping, accounting, and auditing clerks	301	37	12
Typists	147	18	12
Bank tellers	117	14	12
Secretaries	543	53	10
Truckdrivers, heavy	232	24	10
Stock and inventory clerks	149	14	9
Real estate sales workers	113	10	9
Laborers, except construction	291	20	7
Receptionists	208	14	7
Cooks, except short order	423	25	6
Assemblers	215	13	6
Stock handlers and baggers	374	18	5
Janitors and cleaners	518	21	4
Nursing aides, orderlies, and attendants	304	12	4
Cashiers	780	21	3

[1]Includes only occupations with at least 10,000 voluntary entrants.

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MANAGERS CAN BE DEVELOPERS, TOO

by Zandy B. Leibowitz, Jane E. Shore, and Gary M. Schuman

In the tumultuous 1990s, most top managers recognize that competitiveness depends heavily on a skilled, competent, aggressive workforce that can position an organization for long-term stability and growth. The task of developing this resource is falling, with increasing urgency, on the shoulders of managers at all organizational levels.

How effectively do managers play the role of people developers? And how can organizations assess and enhance managers' performance in this crucial area? In short, how can managers be made responsible for ongoing, effective employee development—especially if that responsibility isn't one that all managers feel comfortable undertaking?

Why has people development become such an important facet of managerial work? Why are there discrepancies between what many companies say about developing their employees and what they actually hold their managers responsible for accomplishing?

A system of managerial accountability can serve as a signal that employee development is a corporate value. But is it a viable strategy for developing employees?

Drawing on current literature, a survey of HR practitioners at 41 organizations, and case studies of 10 large corporations and one federal agency, this article probes the real world challenges inherent in altering managers' attitudes and behaviors with respect to people development.

The study looked both at systems that use positive reinforcements and at some that use negative reinforcements; both kinds have merits. The debate will continue over whether a carrot or a stick works best in devising an accountability system, but it is evident that employee development has real, bottom-line implications—and staunch supporters who are working creatively to make sure that it happens.

Employee Development as a Corporate Value

Most senior managers believe that human resources are an organization's greatest asset. From board rooms to business schools, they hear about the importance of developing competent and satisfied employees to improve productivity, profits, and long-term growth. They hear far less about the crucial role of managers—the men and women on the corporate front lines, in middle management, and at the top—in actually translating development from theory into action.

The issue is, of course, embedded in a larger context: that of the sweeping changes in managerial work over the past few decades. Rosabeth Moss Kanter describes the current environment in which many managers operate as "post-entrepreneurial"—characterized by an increase in peer networks rather than hierarchies, greater reliance on external relationships as sources of internal power, and "less intelligible but also less circumscribed" career development paths ("The New Managerial Work," *Harvard Business Review*, November/December 1989).

Kanter's description rings true for many people in contemporary business structures. In a 1990 interview, Levi Strauss's CEO Robert Haas describes his company's climate in words echoed by executives nation wide: "a team-oriented, multiskilled environment in which the team itself takes on many of the supervisor's and trainer's tasks." ("Values Make the Company: An Interview with Robert Haas," by Robert Howard. *Harvard Business Review*, September/October 1990.)

In such settings, managers can no longer think of their jobs as the monitoring of tasks. Instead, they are constantly thrust into action in what Henry Mintzberg ("The Manager's Job: Folklore and Fact," *Harvard Business Review*, March/April 1990) has identified as three overlapping realms: interpersonal, informational, and decisional. (See the figure, "Managerial Work Today: Overlapping Realms," on page 7.75.)

All three areas require continual delegation of tasks, sharing of (sometimes privileged) information, and negotiation of obstacles as well as deals. Thus, whether or not they seek to be, managers find themselves in complex, close, and ever-shifting relationships to the people they manage.

Being in that position creates several difficult challenges for many managers. With respect to employee development, those challenges have to do with combining certain traditional behaviors and skills, such as analytical thinking and a bottom-line focus, with the ability to listen well, give useful feedback, and serve as coach and mentor to subordinates in order to enhance both their satisfaction and their performance on the job.

For many managers, integrating these behaviors and skills is a tall and troubling order. It goes against their training, experience, and expertise. Because of the difficulties involved, many managers resist this new challenge.

Managers who do develop their employees have clear advantages, according to consultants C.O. Orth,

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H.E. Wilkinson, and R.C. Benfari. They discuss the issue in their *Organizational Dynamics* article, "The Manager's Role as Coach and Mentor."

"By helping staff members expand their capabilities and improve their performance," the authors say, "managers can gain more time to improve their own capabilities and performance." And managers who build reputations for developing employees can enhance their own chances for promotion. Even more important, managers can create "a lasting source of power through mutually beneficial relationships with the employees they have helped."

In light of such benefits, it would be reasonable to conclude that organizations would want to promote the notion of managerial responsibility for employee development. So do they promote it? If so, how?

Rhetoric and Reality

There is a gap between the words and the actions of many companies when it comes to encouraging managerial behavior that facilitates employee development. Managers are often not rewarded, financially or otherwise, for their efforts at developing people. In fact, some are actually penalized for such efforts.

Fred Luthans sees this issue as a question of *success* versus *effectiveness* (*The Executive*, Academy of Management, 1988). Luthans defines success in terms of promotion up the managerial ladder; in contrast, effectiveness involves the quality of performance of the managers unit as well as the satisfaction and commitment of the manager's employees. Moving beyond Mintzberg's description of the three realms within which managers operate, Luthans defines real managerial work as the following:

- Communication,
- Traditional management (planning, decision-making, controlling, and so forth),
- Networking, and
- Human resources management (motivating staff members, training and developing them, managing conflict, and disciplining workers).

Luthans then notes that in a study of more than 200 managers, networking was the activity most closely correlated with managerial *success;* HRM activities were the least closely correlated. In contrast, managerial *effectiveness* was closely correlated with communication and HRM.

On the basis of his research Luthans provocatively concludes that successful managers simply don't do the same things that effective managers do. He argues that managers who are both successful and effective are able to balance their approaches and activities so that they can "get ahead as well as get the job done."

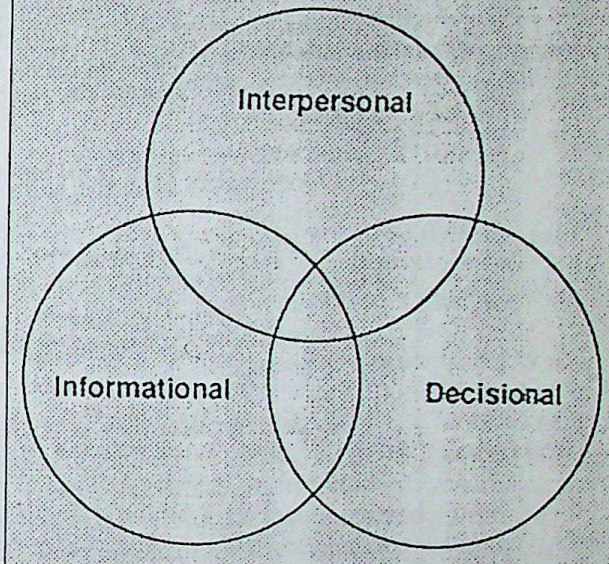
Viewed through this framework, U.S. businesses appear to overemphasize the activities that lead to managerial success, when success is defined as a rapid ascent up the promotional ladder. In appraising managers' performance, they appear to reward behaviors that are unrelated to the development of employees—such as the socializing and politicking that can enhance a manager's career—rather than "human-oriented activities" (in Luthans's words) that support effective business-unit performance.

Luthans calls for a performance-based appraisal system that rewards those managers who are good people managers and communicators, not just good networkers and taskmasters.

Significantly, the problem of overemphasis on success factors does not reside solely with business. The attitudes that underlie the managerial behaviors that lead to success rather than effectiveness are also encouraged in business education—to the detriment, argue some observers, of both business school graduates and the companies that employ them.

Alice Sargent and Ronald Stupak put it bluntly, in a 1989 *Training & Development Journal* article on the androgynous manager: "The inability of our business schools to teach people management and team building skills may be the reason for the recent wave of executive disenchantment with business school graduates."

Managerial Work Today: Overlapping Realms



Adapted from Henry Mintzberg's "The Manager's Job: Folklore and Fact," *Harvard Business Review*, March-April 1990, (Adapted and reprinted with permission of *Harvard Business Review*.)

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CASE STUDY: PERSONAL DEVELOPMENT PLANNING AT BPX

Source: "Do-It-Yourself Career Development," by Robert Tucker and Milan Moravec, *TRAINING Magazine*, February 1992, pp. 48-52

When British Petroleum Exploration (BPX) changed from a paternalistic bureaucracy to a flattened, empowered organization, the company's career development changed, too, say the authors. For one thing, employees are now expected to take charge of their own careers. At the core of personal development planning at BPX is a guidebook that leads the individual through 4 phases:

1. Assessment of current skills—technical and non-technical—as well as interests and values,
2. Establishment of goals for both current jobs and future positions,
3. Setting of specific development and improvement actions, target dates for completion, and resources required, and
4. Implementation of action plans following agreement between the employee and his or her supervisor.

An employee/supervisor "reality check" is conducted at various points in the process. Employees are encouraged to be open with supervisors, since this benefits both employees and employer in a changing company. The author also discusses "skills matrices" that describe in great detail the skills, behaviors, and training required for each step in the career plan of a manager or a non-manager in every "job family." Upward feedback from subordinates on their superiors is fed into the managers' personal development plans, as well. (AN234)

Even when senior managers pay lip service to the idea of employee development, they do not always behave in ways that communicate the necessity of development.

In a survey of 41 organizations conducted in 1989, we asked respondents to characterize their top managers' commitment to employee development. More than two-thirds of the people we interviewed stated that upper management in their organizations is very or somewhat committed to employee development. But less than half claimed that holding managers accountable for people development is a strong or moderate corporate priority. Close to half felt it was "not much of a priority." Clearly, something is getting lost between rhetoric and reality; statements of principle are not always being implemented in practice.

Moreover, even with official policies supportive of employee development, many organizations don't provide the practical and cultural support that makes the difference between deep-seated commitment and superficial acquiescence to those policies. In fact, in some organizations the managerial attitudes and behaviors most likely to be reinforced are those that block or fail to facilitate the employees efforts to enhance their jobs and careers.

Many senior managers themselves do not undertake any self-development, sending the implicit message to lower-level managers that development is not a top priority.

A Strategy for Change

What can organizations do to ensure that employee development is more than just a nice idea whose time hasn't quite come? Increasingly, organizations are attempting to erect workable systems of accountability. They are creating a means of holding managers responsible for taking concrete steps toward the development of their subordinates.

In the view of many executives who support development, accountability is the most straightforward route to changed behaviors which in turn lead to shifts in managerial attitudes. Positive attitudes, say such business leaders, are what prompt an enduring transformation in the way in which workers experience their tenures in the organization and contribute to its productivity and growth.

Accountability systems are thus intended to put teeth in employee development. They let everyone know that management means business when it comes to developing a competent and enthusiastic workforce.

To build in accountability, most companies begin by establishing clear development standards and devising feedback loops so that managers and employees both

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Development Standards for Managers

Employee development standards must be tailored to the specific work environment. But certain elements are typical:

- Career discussions are held once a year with employees.
- Employees have career development plans that tie into business strategies.
- Employees participate in at least five days of training per year.
- All positions have developed backups.
- Skills and interests are discussed with employees.
- Employees have career plans that include several development goals and a variety of development activities.
- The staffing plan is linked to individual career plans.

know where they stand vis-a-vis those standards. To reinforce managers roles in the process, a combination of rewards and sanctions is typically used.

The critical elements in most accountability systems:

- Skills
- Perceived benefits
- Standards (what managers are accountable for)
- Feedback
- Rewards and sanctions (accountability mechanisms).

Clearly, standards for employee development must be tailored for particular environments. Nonetheless, certain features are typical. (See the box, "Development Standards for Managers.")

Feedback options also vary, but include the following:

- Evaluation of managers' development activities by their bosses
- Evaluation of managers' development activities by their subordinates
- Peer evaluations
- "Skip-level" evaluations, in which an employee discusses his or her development with his or her manager's manager.

Rewards, too, are diverse. (See the box, "Rewards for Employee Development.") Sanctions typically entail limits on promotions and raises unless managers hone and display their people-management skills regularly.

It all sounds good, but how does a company know whether to use rewards or sanctions, and how does it determine whether its accountability system is really working?

To investigate those questions closely, we undertook case studies of 10 large companies and a federal agency attempting to establish managerial accountability for employee development.

The findings dovetailed with our earlier survey results: many of the organizations we studied report a gap between official policy and actual practice. But we also uncovered some innovative solutions to the problems of administering, assessing, and enforcing managerial accountability, as well as some promising trends. Other solutions appear in recent literature on accountability systems.

Findings from the Field

The companies we studied have diverse strategies for devising effective managerial accountability systems. A few have also pioneered useful ways of assessing these systems. Here are some highlights.

At Merck and Company, people management is a formal segment of the performance appraisal system. Each year, managers receive at least three to five days of training in management skills. They also meet with senior managers to review the level of feedback they are giving employees; if they have not addressed their problem areas by the time of their next appraisals, managers' ratings are affected. Merck's Director of Corporate Training and Development, Howard Levine, notes that the primary responsibility for development lies with employees themselves, but that the organization and its managers must provide a supportive environment for development to take place.

Training by itself isn't enough to bring about growth and development. In many cases, on-the-job development activities are effective in fostering the development of new skills. Such activities as coaching subordinates help managers realize that their work isn't just about doing; it's also about developing people.

At Gannett Company, managers' performance appraisals include consideration of their efforts to develop employees. Executive compensation bonuses are based in part on their effectiveness in doing so. Tying employee development to performance and pocketbook issues sends a strong message to managers that Gannett values development highly and that individual managers are held responsible for making sure it happens.

Criteria for Gannett's annual Manager of the Year award include effectiveness in employee development and teamwork, according to Madelyn Jennings, senior VP of personnel, who adds that profitmakers can't win unless they are also successful on the "people" front.

At General Electric, managers undertake self-appraisals of their leadership skills; peers and subordinates also assess them. A 72-dimension assessment tool, separate from the company's performance appraisal system, is part of management development at GE. Managers are counseled on the confidential results of the assessment. A core curriculum continually trains managers in people-

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developing skills, and the company's Corporate Management Development Institute offers a year round set of courses each year for 5,000 or so managers. The courses deal extensively with employee development.

Jim Baughman, Director of Corporate Management Development, notes that GE is working on helping managers to eliminate barriers to employee development—in particular, competing demands on time, diversification of the workforce, and an overemphasis in business education on analysis rather than real leadership.

At Lotus Development Corporation, a performance system provides managers with clear directions and development plans for setting goals, coaching, and counseling subordinates. The company sees people-development issues as crucial to long-term stability.

Christopher Newell, Lotus's director of organizational development, says, "When you have a 70 percent market share, you can confuse your success with doing all the right things" when it is actually a function of an extraordinary business idea. Thus, a company must always pay attention to the people side of the equation. Senior management sets the tone in this area.

"If the top of the house isn't thinking developmentally," Newell says, "you don't have much of a chance."

To substantiate that commitment, Lotus recently initiated incentives and bonuses for top managers that are based on both people management and achievement of business goals. In addition, the company now presents sizable cash awards to the Manager of the Year, based on the notion of developmental leadership.

At a leading computer corporation, managers in half of the business units cannot receive overall performance ratings that exceed their line item ratings for HR management. Each manager must sign his or her employees' formal career development plans, which are tracked and reviewed annually. Periodically, every employee participates in "skip level" meetings in which she or he discusses development with her or his manager's manager. This builds in accountability and keeps several layers of management attuned to developmental issues at all times. Divisional awards are given to managers who are excellent people managers as well as bottom-liners.

As those highlights reveal, companies use both rewards and sanctions to instill accountability for employee development in their managers. Some HR professionals and managers are opposed on principle to accountability systems, arguing that they undercut the view of development as an inherent part of a manager's job. But most feel that some combination of carrot and stick is necessary—at least until significant attitude changes occur.

Realism About Changing Behaviors

Reinforcements of some sort are becoming common in many companies. In the view of one training director, "reinforcement procedures" are a necessary first step in inculcating accountability.

At National Westminster Bank USA, formal evaluation activities have augmented more informal approaches to managerial accountability. Included in a managers own performance appraisal is an item on each employee's development needs. The manager is expected to follow up on a commitment to assist each person in meeting these needs through courses or other means.

This approach may be a realistic way to move managers in new directions. Many managers have been promoted to their current positions without sufficient management training, and National Westminster believes that it is unfair to expect people automatically to have development skills.

National Westminster attempts to maintain a continuous emphasis on development—of managers' careers as well as subordinates' careers. Informal mechanisms take on added importance in this regard, as new cultural norms are established and managers feel peer pressure to behave in ways that enhance their employees' development.

Some companies have devised sophisticated accountability systems with sanctions that also serve pedagogical functions.

In the late 1980s, New York Telephone's HR department created the "Development Partnership" to encourage allocation of responsibility for career development between managers and their managers (*Personnel Journal*, 1990). In a four-step process, both partners learn to accept and share accountability.

In the first step, subordinates create their own development plans using a resource guide for personal growth, as well as the company's Job Outlook (an overview of opportunities for lateral movement). New or recently promoted managers also take training through the Generic Management Skills Curriculum.

In step two, subordinates undertake the on-the-job development activities to which they've committed themselves in their development plans.

Step three provides for managerial accountability by using two measurement tools indicating the involvement of both partners in the development process.

The Development Checklist is a set of questions for managers regarding various developmental indicators. For example, it asks about the number of employees who have been transferred laterally or promoted, who have

Rewards for Employee Development

Companies have many options when choosing "carrots" for managers who concentrate on developing their employees. Some common methods of reward and recognition:

- Achievement awards
- Manager "spotlights"
- Cash awards or bonuses
- Additional training & development budgets
- Discretionary funds
- Additional development for the managers themselves

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left the organization, or who no longer report directly to the manager. It also summarizes the developmental offerings to which both parties have agreed.

Subordinates from the first three corporate managerial levels complete the firm's Survey on Management Development. In it, they give confidential feedback on the support they have received from their managers for their development plans. The anonymous survey feedback goes to each manager's boss (as "skip-level" feedback) and is part of each manager's performance appraisal.

In step four, both the manager and the subordinate are formally appraised on how well they have undertaken their roles in the development process. These assessments use information from both measurement tools.

What makes this system interesting from a learning standpoint as well as on the level of carrot-and-stick reinforcements, is its emphasis on feedback and on corporate resources to support development. Feedback is bilateral: Managers can document (in step three) what they've done for their subordinates, who in turn can express their views on their managers' behavior.

And with such resources as the Job Outlook and the core curriculum, New York Telephone managers are able to give concrete help to their subordinates.

The Development Partnership directly influences performance appraisal outcomes—which can, in turn, lead to promotions and raises. The effect is hardly punitive. Managers have many means to enhance their people-development skills and increase their opportunities for success within the company.

Rewards: Using Visibility

Most companies shy away from direct financial rewards (such as bonuses) for people development. They believe that such incentives dilute the message that individual responsibility for development is an essential aspect of a manager's job.

Levi Strauss's Haas has put it succinctly: when incentives are tied to performance, "you end up using pay to manage your company. But pay shouldn't manage your company; managers should."

For the purposes of behavior modification, some organizations offer awards for superior people-managing skills. Occasionally those awards include a small financial component along with visibility.

Honeywell's Lund Award is an example of such a strategy. Ed Lund, a retired top officer of the company, with an exceptional financial record, was viewed as a stellar manager whose people-development skills had helped many employees build their careers at Honeywell. The award named after Lund is prestigious and difficult to win. It is given to managers who contribute strongly to their units in terms of profitability, assist the career development of at least three people, and have excellent records as mentors of diverse employee groups.

Winners (only one per division except in larger divisions) receive $3,000 stipends and corporatewide recognition. They attend the Lund Symposium, where they work on strategic HR issues and make recommendations to senior management. Because Honeywell also awards technical and sales competence, the Lund Award is an effective way to broadcast the message that the company is committed to people development, without actually mandating it as a policy.

In addition to the Lund Award, two divisions of Honeywell implemented a "Growth Project" in the mid to late 1980s. The project enhanced managers' skills and behaviors as people developers, through upward feedback from their employees. It also made a small financial bonus available to every manager who qualified on the basis of the feedback.

According to David Bedrick of Applied Personnel Technologies, which collaborated with Honeywell on the project, the important thing about the bonus wasn't the amount of money involved, but the message about the company's seriousness about people development.

Representatives of several of the companies we studied offered forceful rationales for their organizations' efforts in constructing accountability systems.

At Du Pont, which tries to promote managers from within, top management sees people development as the best weapon in its competitive arsenal, one that is clearly superior to technology, which the competition typically develops with alacrity.

Du Pont's HR staff views consciousness-raising as the company's biggest challenge: making managers aware of the business sense of employee development and getting them to think of it as part of their jobs.

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Managers as Developers: Training Tips

Organizational career development both helps and burdens managers. Working with employees to chart and implement their career goals enhances productivity and makes managers look good to their staffs and their superiors. But career coaching skills are not traditional management skills—many managers need training in career development techniques.

Failing to assess managers' career coaching skills and to provide training where needed stifles even the best career development system. Here are some tips for training that will help managers feel comfortable and skilled in their pivotal development role.

First of all, don't expect managers to be professional coaches. Many managers are used to decision-making and order-giving roles; they may be uncomfortable with the guiding and participating roles of career coaches.

Expect resistance from some managers to their coaching duties. Two common initial reactions: "It's a waste of time to counsel anyone but the best performers," and "Career coaching consumes too much time." Attitude clarification in the training program for managers will uncover and defuse such attitudes.

Deal with both sides of the career development coin: the theoretical side and the human side. Make sure that your manager training program provides a solid presentation of the philosophy and practices of organizational career development. But it should also provide meaningful exercises and discussions to help managers clarify their own career goals and their coaching skills.

Design a comprehensive workshop for managers.

Vary training strategies, but includes several individual and group exercises on values and skills clarification. Suggested training topics:

- Your firm's culture and goals
- Career development theory
- Adult learning strategies
- Counseling strategies and techniques
- Interpersonal communications
- Active listening skills
- Goal-setting strategies

Schedule follow-up sessions and refresher training at regular intervals.

Provide ongoing assistance for manager in career development. Help can come from in-house training and development staff or from external career development consultants.

Adapted from "Best Ideas for Career Development Systems," by Ellen Segalla (now Ellen Carnevale). *Info-Line*, September 1987. Alexandria, VA: American Society for Training and Development.

A major computer company whose CEO stands firmly behind development urges managers to accept not just the idea but also the day-to-day exigencies of this aspect of managing. The real issue, says an HR staffperson, is letting go of the fast-track mentality and making development matter on a routine basis. As one of the company's VPs bluntly tells his managers, "Lack of time is not an excuse for not doing development."

Assessment: The Missing Link?

The value of institutionalizing such accountability for employee development seems undeniable; in diverse and imaginative ways, many organizations seem to have successfully brought about significant changes in both the attitudes and behaviors of their managers with respect to their roles in the development process. Yet many executives, managers, and employees remain skeptical about whether accountability systems really work. How can a company measure, using credible yardsticks, the effectiveness of the system it uses or plans to use?

That question has obvious implications for the buy-in of everyone involved, not to mention the bottom line effects of accountability systems. For many corporate HR departments, the challenge is to devise accountability structures whose effectiveness can be backed up by both "hard" and "soft" evidence. Attitude changes are not quantifiable, but promotions, lateral moves, attendance, salary increases, and turnover are. Causal relationships can be inferred between such phenomena and changes in managerial style.

At Citicorp, measurement provides both the direction and the impetus for changes in managerial behavior. The effectiveness of the bank's Excellence in People Management (EPM) program, designed to "reinforce and make universal the values that are already operational" within Citicorp, is measured by two sets of "people management leverage points": managers' practices and

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HR processes, both of which are seen as having causal links with the corporate values identified in the EPM model.

Data are collected in two ways. A climate survey gathers information on employee perceptions of EPM values. The corporation's Management Information System gathers hard or quantifiable data on such factors as salary increase percentages by performance-ranking category, and turnover of high-potential employees.

The survey process results in ratings of the general management, people management, and overall business management performance of each business unit within Citicorp.

When this process was initiated, each unit provided a written summary of survey results and planned actions for its employees' development. Most units also held feedback meetings across organizational levels to leverage the value of the information each had received from the data-gathering activity. Managers interviewed afterwards were enthusiastic about the tangible improvements in business operations that resulted from the information-sharing and feedback cycle.

Importantly, objective changes and new activities were implemented across the company. One unit developed the following:

- A Director's Award (with financial incentives) to reward excellent managers not typically rewarded through the regular bonus program
- A newsletter to enhance intra-unit communications
- A self-appraisal process tied to the corporate MBO program
- Cross-functional product review meetings.

Such activities are seen to have positive effects for both employee development and the bottom line.

Citicorp uses both bottom-up and top-down approaches to promote EPM values and the data-gathering process. The CEO has provided strong endorsement, and the climate survey's evident utility and popularity have brought about a marked increase in managerial buy-in at lower levels of the organization. When the EPM process is shown to work—that is, to have objective business-enhancing consequences—in a variety of units, managers are far more inclined to participate meaningfully. Measurement is the glue that makes the process stick.

Making Accountability Work

As we've seen, there are as many ways to implement accountability as there are corporate settings. It is tempting to try to construct a set of generalizations for a process that clearly must be individualized; nevertheless, a few common features emerge from the diverse systems we encountered in our research.

- First and foremost, top managers must be squarely behind efforts to implement accountability. Without such support, most systems fail.
- Approaches that make use of existing compensation structures, rewards and benefits, and performance appraisal mechanisms are more likely to succeed than those introduced without adequate cultural preparation.
- Feedback loops are essential. Managers should have many opportunities to assess their own activities and behavior. Their own managers should be involved, and their subordinates should provide feedback through formal and informal mechanisms. Communication is essential; if the firm does not stress it as a corporate value, an accountability system will be less sound.
- Clear criteria for managerial effectiveness help managers and employees know what's expected of managers and what people development stands for within the organization.
- Development entails the participation not just of managers and their subordinates but also of the firm itself. Diverse corporate resources must be contributed to the process. Management training is crucial, but it isn't the only possible contribution. On-the-job activities have proved highly useful in many settings.

Empowerment begins with clearly articulated values. Managers who feel confident in their people-developing skills also need to feel confident in their organizations' unstinting support of such skills. They are listening for the message that the bottom line does not exist apart from the question of whether employees are committed to an ongoing process of personal and professional growth.

Companies that involve their managers in the actual construction of an accountability system reinforce that message by letting managers know that their opinions, fears, and experiences as managers count. And when that happens, good employee development follows.

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A MODEL FOR CAREER MANAGEMENT

Source: "A Framework for Career Management," by Andrew Mayo, *Personnel Management*, February 1992, pp. 36-39

Human resource specialists can manage the career development process so that it delivers people with appropriate skills, says the author. He explains how this can be done through a systematic methodology involving several steps:

1. Assessing the needs of the organization,
2. Understanding and reviewing the 5 dimensions of the organization's culture: (1) chief executive commitment, (2) process formality, (3) promotion and job movement, (4) centralization, and (5) resource availability,
3. Reviewing and revising the overall framework of the processes,
4. Analyzing the structure of the organization and its opportunities,
5. Reviewing and revising the processes which involve the individual,
6. Determining how to hold, manage, and use the data,
7. Reviewing and revising the opportunities for learning through experience, and
8. Finalizing the new framework.

Two tables illustrate (1) the possible elements in a career management framework, and (2) the process of matching people with jobs. (AN235)

C-2. NEW EMPLOYEE ORIENTATION

THE HONEYMOON IS OVER FOR CORPORATE AMERICA

by Halya Duda

As the pace of business activity and change accelerates, managers filling openings are demanding immediate performance and having less and less tolerance for delay. The honeymoon period, a time of getting acquainted with key players and becoming familiar with the routine and with expectations, is all but disappearing. The demand is for performance now.

Recently, a confidential telephone survey was conducted among HR heads in approximately 20 top U.S. companies, asking the question: "What percentage of new internal and external placements in your company do not fully meet expectations and why?" Fully meeting expectations was defined as performing commendably in a position for at least 18 months and demonstrating promotability.

Survey respondents estimated that executives who are placed from within the company ranks do not meet expectations about 10 percent to 30 percent of the time. Executives who are recruited from outside the company do not meet expectations from 15 percent to 30 percent of the time.

Mel Sorcher, an expert in executive assessment and development, reports in his book, *Predicting Executive Success*, that approximately one-third of all newly placed executives fail to meet expectations. The head of HR for one *Fortune* 50 company estimates the actual failure rate worldwide to be closer to 50 percent.

It is fairly common knowledge that many, if not most, newly placed executives who do not succeed do so for reasons unrelated to technical competence. A common explanation for these failures is "chemistry." "The chemistry was wrong. He didn't fit." Or, "She just didn't get along with so-and-so." And, most often: "He just got off on the wrong foot and never turned it around."

In the fast-paced world of today's business, the chance of getting off on the wrong foot is increasing and can become an embarrassment to HR professionals who are part of the search process.

Assuming technical competence, the causes of failed executive placement vary and tend to fall into interpersonal or personality issues, corporate culture issues, or organizational problems that mistakenly had a staffing solution imposed. Setting the last reason aside (not the focus of this article), let's examine what can be done to ensure that a newly placed executive succeeds.

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Planning for Assimilation

Rather than relying on chance or the reassuring comments from an executive recruiting firm, HR departments can design and implement an executive assimilation process that reduces the risk of a poor start. Not only would the process develop winning matches, it would expand HR influence. All high-level HR professionals interviewed agree that intuitively the concept is on target.

Research conducted in the 1960s and 1970s by John Kotter of the Harvard Business School, and others, confirms that a well-designed orientation program goes a long way toward increasing productivity and satisfaction for lower-level employees. However, the standard orientation program is inadequate at the executive level and should be complemented by a structured process to accelerate the successful integration of the newly placed executive into organizational culture, management styles, his job and his influence network.

Three Process Components

Component 1: Corporate Culture. Harry was tremendously successful and was a star even among the high potential group. He had been hand-picked by top management of one of the best firms in the country to create a market coup by developing a new product line. The strategy worked, stunning the marketplace.

Several years later, Harry was recruited by a much smaller entrepreneurial high-tech firm expecting him to repeat his magic there. Not only was there no magic, he was a dismal failure and left after 16 months. At his previous company, Harry had enjoyed almost unlimited support services, and to some degree, he expected the same support in the small firm even though the resource differences between the firms were obvious to everyone. So with the new firm, he continued to behave as if he could delegate all the details. Things fell through the cracks, frustration grew and Harry sought another position.

One key area that requires analysis is organizational culture. The assimilation program should have some tools and procedures for identifying differences in the newly placed executive's old and new corporate cultures. Knowing the areas of difference and similarity will enable the newly placed executive to capitalize on the similarity and take precautions to avoid behavior that is negative in the new setting.

If the organization has never formally assessed its culture, the hiring manager often has as much to learn from this activity as the newly placed executive. Although it is common for cultural differences to exist between companies, they also exist between divisions and even departments.

As Robert Hammer, who is responsible for executive development at Los Angeles Water and Power, says, "Sometimes newly placed executives fail to recognize and work with prevailing norms, assuming that the basis for past success is key to future success."

Bringing in an outsider can work like an organ transplant in which the body rejects the foreign object. This can be particularly so for companies with a strong corporate culture reinforced by a tradition of hiring from within. Ann Pol, manufacturing vice president at Pitney Bowes, has found that after her company made a major commitment to continuous improvement, changes in the Pitney Bowes culture have made it much easier for outsiders to fit in.

To assess culture, a company can develop an in-house instrument or select one from those available in the marketplace. Information about what is available can be obtained from organizations that specialize in organizational development or a local university faculty member with an organizational development background.

Component 2: Management Style. A highly personable and articulate executive, Bill, had enjoyed a fast climb to the top spots of an insurance company until he reached a position in which he was stymied organizationally. Another large insurer quickly recruited him for a top position located in the same general area and managed much the same as his old firm. Unwittingly, Bill jumped from the frying pan into the fire.

His immediate superior, who had brought him in and was his main connection to the company, failed to meet objectives and was asked to leave within a year of Bill's joining the firm. Because Bill was a relatively new entity, the promotion was given to a co-worker who was "born and bred" in the firm but had much less operations experience.

After a few months, Bill walked in to his boss's office and stated that it was obvious things were not working out. The company gave him a generous severance package, but his personal disappointment still lingers.

His main difficulty with the company is captured by his statement, "I was there for six months and no one asked me how I was doing. No one cared."

The second component of an assimilation program should address the issue of management style and should provide a tool to assess the style of both the hiring executive and the newly placed executive. This tool should identify commonalities and differences in management styles for both individuals and present the data in a way that is conducive to discussing how counterproductive interpersonal conflicts can be anticipated and diffused, and how strengths can be maximized. According to Daniel Dana, an expert on managerial mediation, 65 percent of performance deficiencies result from ineffective relationships, not from ineffective employees.

It is possible to design an instrument to assess management style. There are, however, so many validated, reliable instruments available from vendors that it probably would be smarter to buy one rather than invest in developing your own. To learn of available instruments, check resource guides such as the *Training and Development Handbook*, edited by Robert Craig and distributed by the American Society for Training and Development or the *Mental Measurement Yearbook*, by O.K. Buros.

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CASE STUDY: SENIOR EXECUTIVE ORIENTATION AT INDUSTRIAL INDEMNITY

Source: "Don't Overlook Senior Executives in Your Orientation Efforts," *Training Directors' Forum Newsletter*, February 1992, p. 5

Industrial Indemnity in San Francisco has developed an orientation program for senior management ranks, designed to condense learning time and thus shorten the time it takes for the executive to start making a contribution to the organization. The program, modeled after an extensive, 2-year program at Corning Inc., is designed around 3 components:

- A 15-item analysis of corporate culture with which the executive compares the previous organization's culture to the new one,
- A management style questionnaire filled out by both the new executive and his or her superior, and
- A self-directed orientation tool to help executives explore goals and activities at each level of the company. (AN236)

Approaches range from the *Leadership Practices Inventory* by James M. Kouzes and Barry Z. Pozner and published by University Associates to a comprehensive, in-depth assessment software program, *Insight for Managers*, by ACUMEN International (800) 544-8626. The field of management-style assessment is so rich that it can be confusing. To ensure an appropriate fit, be clear about objectives before selecting the instrument.

Component 3: Work Flow Orientation and Bonding. Carl was a brash, demanding executive who made a name for himself in a traditional, hierarchical, financial services company as someone who produced results. He was recruited by a fast growing, youthful company that functioned in a campus atmosphere, encouraged total commitment, and had an intense work week. Carl was hired to bring some discipline and order to the firm, and he did—by requiring organizational charts and adherence to them. He was inclined to give orders and not accept feedback.

Consequently, he never fully understood his position, did not develop a following, and did not bond with key peers. Soon, people were stating that they did not like him, which may have been irrelevant in his previous company, where employees were expected to just follow orders. But in this firm, proud of its organized rather than hierarchical culture, this was the death knell. He was excluded from private meetings and deprived of information. Ultimately, he was unable to function and was asked to leave.

While the differences in corporate background and management style between Carl and his peers were recognized and manageable when he first joined the firm, he never bonded with his key performance network, which became his undoing.

Essentially, the newly placed executive needs to accomplish two critical activities in a short time. One is to obtain quality information about the entire work flow system that he or she is now part of—not just the boss's objectives. The second is to bond with the new management team as well as key organizational players to operate effectively on the basis of their information.

The third component of the assimilation process is to effectively and efficiently obtain high-quality information about input, process, and output variables for successful performance for the individual, the business unit managed and the organization as a whole. This component is the most challenging and most likely to falter without expert guidance.

It is important to structure the process: Provide an interview schedule for the newly placed executive to help bond the executive with the performance support network. That is, help the new person meet with players who are critical for success.

An optional element of this component is a transition meeting for the newly placed executive's management team. This transition meeting surfaces and resolves expectations and concerns on both sides and concludes with a 90-day action plan for the team. Though the first two components of an assimilation program can be generic, this third component should be custom designed for each company or division.

The Critical Period

According to John Gabarro's work on executive assimilation, *The Dynamics of Taking Charge*, the first three to six months are the most critical and set the tone and direction for the rest of the taking charge process. Authors McCall, Lombardo and Morrison of *The Lessons of Experience* suggest that a formal assimilation process is just as important for inside placements as for executives hired externally.

Despite the logic supporting an assimilation program, sometimes the organization's culture has such a strong

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"be tough" dynamic that anything but the sink-or-swim approach to integrating the new manager seems unthinkable. Also, as Roxanne Decyk, senior vice president at NAVISTAR, points out, "The expectation is that the (newly placed) executive has the skills to survive." Yet, by definition, the sink-or-swim approach does generate some casualties.

Who Heads the Program?

Two basic issues that need to be addressed prior to developing an assimilation program: Who will be responsible for designing and implementing it and who will fund the activity? Assimilation programs are so new that they do not clearly fall within any HR or line department's responsibilities. Recruitment professionals focus on the labor market, the availability of skills, and matching those skills to the company's needs. Compensation and benefits often helps administer the orientation program but seldom tracks new-employee performance.

Organizational development typically gets involved with new executives if there are problems, but such a reactive response is less effective than a proactive program. Indeed, an assimilation program that identifies potential areas of conflict and, therefore, helps avoid or manage problems contributes to making the entire HR system work more effectively and efficiently.

Implementation Strategies

Here are three possible implementation strategies to consider.

- *Contract with experienced outside consultants to handle the entire process; possibly customizing the materials to target company issues.* On the plus side, the newly placed executive may find it easier to be open with an outsider. This issue becomes more pertinent with higher or more sensitive positions. On the downside, this option increases the consulting budget, which is usually the first to be scrutinized at budget time.
- *Develop an in-house program and staff it with in-house personnel.* This approach allows the company total control over process, enabling it to continually fine-tune the program. On the downside, the executives for whom it is designed may not be open; so this approach may result in less than candid information sharing, undermining program objectives. Also, the company may not have enough promotions and new hires to warrant underwriting the cost of an in-house program.
- *Develop a combined approach—an in-house program that includes contracting with an outside consultant.* The latter would conduct one-to-one debriefings with the newly placed manager as well as others, facilitate the transition meeting with the management team, and be a sounding board for the newly placed executive. This approach may provide the best of both worlds, but outstanding results can occur only with careful planning and orchestration of the program components. The confidentiality of the newly placed executive will be honored while the needs of the organization are met.

An Opportunity for HR

HR should not wait until someone else raises the issue of how newly placed executives perform. Instead, it should determine to what degree new placements have been failing to meet expectations and propose an assimilation program—or request one as part of the next contract-search assignment.

As Jeanne Coyle, a San Francisco-based management consultant and former senior vice president for HR at American Express advises, "All search firms should add value this way!"

This is an opportunity for HR. From a business perspective, a formal assimilation program that works is a small outlay that will protect a major investment and avoid what could be an incredible cost in lost opportunity and executive-replacement costs.

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CASE STUDY: NEW EMPLOYEE ORIENTATION AT MET PROPERTY AND CASUALTY

Source: "Focus from the Start," by Joseph P. McCarthy, *HRMagazine*, September 1992, pp. 77-83

After Metropolitan Property and Casualty Insurance Company developed new vision statements, they wanted to make sure that their orientation program effectively introduced new employees to the changing organizational climate. The author explains how the company developed a flexible program which could be used in the more than 150 field offices around the country, as well as at the main office. The program's 6 design features included: (1) informal structure, (2) a self-development role for the employee, (3) minor time demands on the supervisor, (4) direct support of job training, (5) payoff for the employee and the supervisor, and (6) a success orientation. The article describes the key elements of the program:

- **Supervisor's role.** This is outlined in a 4-page guide and is individualized for each employee. It includes topics for dialog and a discussion of expectations.
- **Mentor's role.** Each employee is assigned a mentor—a co-worker selected by the supervisor.
- **Partnership of peers.** The program sensitizes all employees to the needs of new associates.
- **Self-development.** The employee is responsible for working through an *Employee Orientation Workbook*, which includes self-paced activities, discussion topics for the employee to pursue, achievement plan worksheets, a list of educational programs and company resources, a 6-month planner, a success checklist, and room for notes.
- **Feedback.** The system is intended to encourage ongoing, informal dialogue and feedback.
- **Videos.** The new employee views 2 videos: "Looking Back to See Ahead" (a history of the parent company, MetLife) and "Focus from the Start" (which highlights teamwork and creativity).
- **Vision.** Each new employee receives a copy of the company vision statement, which discusses mission, philosophy, and goals.
- **Values.** Each new employee receives an employee handbook, which covers key corporate policies and core values. (AN237)

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C-3. DUAL CAREER PATHS

TDY 93/94

RESEARCH SUMMARY: SURVEY OF DUAL-CAREER LADDERS

Source: *Dual-Career Ladders: 1992*, Hewitt Associates, 1992, 29 pages, $75

To provide equitable career path options to both managerial and professional/technical employees, many companies are using dual-career ladders. Hewitt Associates conducted a survey of 107 larger American companies, mostly in manufacturing, to understand current trends in this area. The report consists of graphs and one or 2 paragraphs of explanation for each of the areas studied in the report. Some of the findings were:

- 70% of the companies use dual-career ladders for engineers, 52% do so for R&D, and 36% do so for Information Systems.
- The main reason dual-career ladders are used is to retain the best technical people (90%) and to create a career path for those not interested in management (88%).
- Two-thirds reported that their dual-career ladders achieved desired results, while 13% did not. Of the companies having difficulties, 77% had not clearly defined the responsibility between levels on the technical ladder, while 62% had poorly-defined career paths.
- Dual-career ladders either cost the same (52%) or are more expensive (44%) than a single ladder.
- Most companies (70%) give employees detailed information about the career paths and salary potential of each ladder.
- Most ladders have either 3 or 4 levels (67%) in both management and professional/technical ladders. On average, the ladders start at a midpoint of $62,000 and continue to about $100,000.
- Dual-career ladders have little effect on existing compensation systems, except in job descriptions (55%).
- In 50% of the companies, the management ladder is perceived by employees as more desirable than the professional/technical ladder, while in 45% of companies they are perceived the same.
- Over half of companies (57%) report that advancement progresses at the same rate on both ladders and 71% typically award the same perquisites to both ladders.
- On average, one-third (38%) of employees advance to a level where they can choose a career path. (AN238)

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TDY 93/94

CASE STUDY: DUAL-CAREER TRACK AT BRITISH PETROLEUM

Source: "Designing a Dual Career-Track System," by Robert Tucker, *et al.*, *Training & Development*, June 1992, pp. 55-58

In this article, the authors explore the alternative reward and promotion system for high-performance employees at British Petroleum's Exploration Division (BPX) who are not on the managerial track. Teams were formed and charged with exploring solutions to dual-path issues. Each team was assigned specific managerial and individual contributor levels to study, and they followed several steps in defining the requirements and levels for their assigned paths:

1. Refine and select only the skills factors relevant to the management and individual contributor levels, acknowledging that factors did not have to be in the same order of importance for both paths.
2. Describe levels for each of the selected factors.
3. Create career path matrices to clarify the competences required for each factor at each level.
4. Design development guidelines to bridge the gap between existing and needed skills.

The authors discuss the significance of the matrices in enabling employees to take charge of their own development and in providing support for other human resource management activities. They also note the importance of maintaining open communication with employees throughout the process. Line functions were empowered with their own skills matrix experts, thus generating in all employees a sense of ownership in the new programs. (AN239)

C-4. MENTORING

THE VALUE OF MENTORING

by Timothy J. Newby and Ashlyn Heide

Mentoring programs are used widely within business as well as academia. Although program formats and subject matter vary, the overall goal is common: To efficiently and effectively develop the knowledge, talents, and skills of a less experienced person through individualized attention from someone with more experience and knowledge in a given area of expertise. Healy and Welchert (1990, p. 17) consider mentoring to be "a dynamic, reciprocal relationship in a work environment between an advanced career incumbent (mentor) and a beginner (protegé) aimed at promoting the career development of both."

Under the direction of the mentor, the protegé is given immediate access to valuable insights and past experiences. For example, the master watchmaker has years of exposure and practice with all types of timepieces. He has learned, among other things, which tools and materials work well, what problems might occur, and the difference between poor, good, and outstanding quality. Under the master's tutelage, the protegé is guided past the usual trial and error pitfalls and is given insights that otherwise might require years of experience to acquire.

Although the value of learning from a master may be apparent for those receiving the instruction, an important question is why an individual would invest time, energy, and effort to develop another's potential. This paper is directed to answering that question. Following brief explanations of the phases within a traditional mentoring program and the benefits of such for the protegé and his or her organization, we focus on the extrinsic and intrinsic value of such a process for those performing the mentor role. Finally, a set of guidelines is given that prescribes means to help increase the value of a formalized mentoring program.

Copyright © 1992 by the Learning Systems Institute, 919 West College, R-19, Florida State University, Tallahassee, Florida, 32306. Reprinted by permission from *Performance Improvement Quarterly*, Vol. 5, No. 4 (1992), pp. 2-15. All rights reserved. Timothy J. Newby is an associate professor in educational computing and instructional development at Purdue University, West Lafayette, IN. Ashlyn Heide is a Ph.D. candidate in educational curriculum at Purdue University.

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Phases of a Mentoring Program

An ideal mentoring program consists of five major phases. These include goal setting, initiation, cultivation, separation, and redefinition (e.g., Bernstein & Kaye, 1986; Haring-Hidore, 1987; Kram, 1983). The only stage not directly requiring the mentor's participation is that of goal setting; however, many potential mentors participate in this process as subject-matter experts and as a prelude to their later involvement.

The *goal setting* phase primarily consists of determining the potential worth of a mentoring relationship. Why is a mentor needed? How could a mentor facilitate the learning process? What are the potential outcomes with a mentor? What would be the results without a mentor? All are possible questions that could be posed during this phase. The generation and prioritization of program goals, plus possible times of duration and potential activities (Phillips-Jones, 1983) need to be established. These goals are critical for the part of the following phase that involves proper matching of needs and abilities.

The second phase, *initiation*, begins with a pairing of the protegé with the potential mentor. At this point, the protegé is the one in need of support and guidance, and the mentor has the potential to satisfy those needs. The commonality between the needs of the protegé and the experiences of the mentor may naturally bring the two together; however, in most cases an outside selection process is needed to ensure that all needs and experiences are optimally matched.

After the selection and pairing, combined training with the mentor and protegé is necessary. Here, both parties learn of their respective roles, the parameters of those roles, and the process and activities of the partnership. Likewise, fears and concerns of making such commitments can be confronted and expressed.

Within the initiation phase, the critical groundwork of the mentoring program is established. False expectations, over-commitments, and inappropriate motives should be identified and resolved at this point; otherwise, the mentor and protegé will have increasing difficulty throughout their relationship. If it is determined that a selected mentor and protegé pair are not compatible, the initiation phase is the optimal point to reevaluate and attempt a better match through a second selection procedure.

The next successive phase has been titled *cultivation*. This is a time in which the mentor and protegé partnership builds and grows. It is here that the mentor supplies the bulk of the counseling and the direct instruction. This phase begins with overt guidance and direct instruction from the mentor. By the end of the phase, however, the mentor's role has evolved to one of observation and the giving of feedback and encouragement. Likewise, during cultivation, the protegé evolves from a mentor-dependent to a more independent state. For example, the once inexperienced protegé broadens his or her field of experience through experiences directly coordinated by and/or learned vicariously through the mentor. He or she has learned about the position, the workings of the department and/or organization, and has built enough confidence to attempt increased independence.

Phases four and five consist of *separation* and *redefinition*, respectively. Separation begins as the protegé gains increased confidence and independence in exercising his or her own abilities. As new, unfamiliar situations and problems are encountered, the protegé now seeks first to find a solution independently and then to review and confirm the selected alternative with the mentor. The mentor's role during this phase shifts to a focus on exploring other possible alternatives and on giving support to the protegé's selected course of action. Slowly, the hierarchical teacher-student relationship evolves to a relationship more typical of colleagues. As described by Hunt & Michael, (1983) the mentor begins to accept the protegé as a peer.

During the redefinition phase, the roles and responsibilities of both the mentor and protegé are redrawn (Kram, 1983). For example, with the new skills, the protegé may attempt new and different avenues even beyond those suggested by the mentor. He or she may eventually come to be valued as a colleague and resource by the mentor. In other words, the protegé may have certain strengths that the mentor can come to access and use. As information technology continues to change the nature of organizational work, and organizations utilize more distributed decision-making mechanisms, a network developed between the mentor and his or her past protegés could become indispensable. Although the once structured mentor/protegé relationship has been greatly reduced, the value and benefits reaped from the experience may continue for quite some time.

In summary, the mentoring process consists of phases of goal setting, initiation, cultivation, separation, and redefinition between the mentors and their protegés. Beginning with a structured mentor/protegé relationship in which the mentor supplies information, coaching, and guidance to the protegé, this relationship ideally evolves to one of equality between peers. The final outcome of the process produces protegés with increased knowledge, experience, and confidence, as well as a networked system through which the mentor and his or her past protegés come to utilize each other as resources for continued mutual benefits.

Mentoring: Value for the Protegé

The major benefits of the mentoring program for the protegé are produced from the direct information and the vicarious experiences supplied by the mentor, as well as the degree of confidence that is built by having guidance, assistance, and support during the initial learning process. A mentoring program is beneficial in that it provides individualized attention from someone who has a great deal of experience, a degree of success and respect, and who can supply information that may otherwise be inaccessible within an organization. A new employee, for example, may find the process of completing a par-

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ticular assignment is enhanced and facilitated by first having the steps explained and demonstrated by someone who understands and has had experience with the process in the past. Insights on the format of drafts and final products, on who should be contacted, and on potential problems may also be given. Additionally, a respected mentor may be helpful in sponsoring and promoting work by the protegé that may otherwise go unnoticed.

The protegé may come to view the mentor as a role model, advisor, consultant, and sponsor within the organization (Bernstein & Kaye, 1986; Bolton, 1980). Likewise, the mentor may come to nurture, lead, support, and encourage (Clawson, 1980) as well as coach the protegé (Orth, Wilkinson, & Benfari, 1987). Each of these can increase the probability of the protegé's success.

Mentoring: Value for the Organization

The organization also benefits from mentor/protegé relationships. Mentoring can help resolve some organizational problems such as premature departure, stagnation, boredom, and lack of qualified people in the organization (Bernstein & Kaye, 1986). Mentoring programs also aid development of managerial talent (Hunt & Michael, 1983). For example, a study conducted by Roche (1979) found that nearly two-thirds of the top executive respondents from Fortune 1000 companies had a mentor and/or sponsor, and one-third of those had two or more. He reported that the "mentored" executives earned more money at a younger age, were better educated, were more likely to follow a career plan, and came to sponsor more protegés than executives who had not had a mentor. Further, he stated those with mentor training were happier with their career progress and the overall pleasure gained from their work.

In a similar capacity, both formal and informal mentoring programs have been found effective within academic settings. In one study, researchers in Texas employed practicing mathematicians and scientists to serve as mentors for secondary-level math and science teachers (Miller, Thomson, & Roush, 1989). The selected protegés (teachers) had been under pressure due to imposed state-wide teacher testing and appraisals, and their reported overall job satisfaction was low. Results indicated that the participating teachers incorporated the new ideas and materials into their curricula and actively attempted to transmit what they learned to their colleagues and students. Moreover, teacher satisfaction with their jobs improved. The authors concluded that if similar mentoring programs were replicated nationwide, science and mathematics education could be dramatically improved.

Mentoring: Value for the Mentor

To this point, the focus of the value of mentoring has been on the benefits to the organization and the protegé. Of equal importance however, is the impact and outcomes experienced by those performing the role of mentor. As outlined by Dalton and Thompson (1986), participating as a mentor can be a major part of one's professional career development. Their four-stage model suggests the sequential development from beginning as a dependent apprentice, to becoming a more independent contributor and colleague, followed by a stage of helping, guiding, and mentoring others. The final stage occurs as the individual comes to sponsor and provide direction for a major portion of the organization. Although the acquisition of experiences and training leads to a natural progression from apprentice to colleague, an important question arises as to why one would seek to go beyond that stage to one involving the mentorship of others. What is the motivation for such development? Does the individual benefit through extrinsic factors such as public recognition or a monetary stipend of some sort? Are there other types of reinforcement to be gained from the experience? If so, are those prerequisite before a mentor comes to desire working on behalf of the protegé? For the design and implementation of successful mentoring experiences, the potential outcomes and benefits for mentor involvement must be addressed.

Extrinsic Reinforcements for Mentor Involvement

Throughout a successful program, mentors may appear to act solely for the benefit of the protegé as their efforts are directed at helping the protegé gain additional knowledge or skills. However, for this service the mentor may receive several forms of payment. First, some programs reward mentors directly by giving them additional monetary compensation. In most cases, however, the program is "part of one's job" or has been created on an informal basis, and thus no additional payments are received.

A second potential benefit may be gained through assistance in the mentor's performance of his or her own job responsibilities (Zey, 1984). Mentors frequently find well-trained protegés provide significant assistance in the implementation of new programs, provide a fresh perspective on ideas for current and future projects, and supply a source of feedback for existing programs and policies. Protegés may assume minor (and later, major) job responsibilities of their mentors, thus freeing the mentor's time for new projects and ideas.

Third, by investing time in another's career, a mentor may feel reciprocal effects on his or her own career. For example, getting a job completed through a protege builds one's organizational reputation for task completion. Moreover, the mentor may become identified as a "starmaker" which can attract additional high quality protegés to the mentor's division or department. In other words, a good mentor may find that he or she can now select from a pool of potential protegés because of the reputation gained from work within previous mentoring programs. Additionally, as the mentor invests time with protegés, future successors for the mentor's own position may be groomed. This process may directly facilitate his or her own upward movement. At a minimum, associa-

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tion with protegés increases the mentor's powerbase.

Finally, valued information may be gained through the association with protegés. This information, for example, may pertain to the organization as a whole, to a specific program, or to a particular individual. Mentoring helps the participants keep "in touch" with others' major needs and thus gain an overall wider perspective on global organizational problems.

Intrinsic Value of Mentoring for the Mentor

Motivation from an intrinsic point of view comes from the task itself. One invests effort because of the value of being involved with the task and/or from the value of accomplishing the task itself. For example, for most amateur golfers, time, effort, and money are invested in golf because of the enjoyment of participation, not because of any external reward they anticipate receiving. Likewise, for mentors, much of the value and reward of mentoring may come from being involved with the task of mentoring itself.

Pittman and Heller (1987) discussed how effort can be influenced both extrinsically and intrinsically. In the first case, effort is given to increase the chances of rewards, such as a stipend or recognition. In the latter, effort is invested because participation in the job or task is itself found to be rewarding (Newby & Alter, 1989). We will consider a variety of factors that may increase the intrinsic rewards of being a mentor. These factors are adapted and generalized from the writings within the field of motivation by authors such as Keller (1987), Lepper (1988), and Newby (1989).

Curiosity. Humans are curious beings. We devote attention and effort to tasks that we find to be novel (Lepper,1988). The curiosity of a new and different aspect of an individual's position may contribute to an interest or desire to attempt the new task. After reviewing the literature on the phases of mentor relationships, Kram (1983, p. 609) suggests that entering into a mentoring relationship provides "an opportunity at midlife to redirect one's energies into creative and productive action" as opposed to being faced with reduced or non-existent growth opportunities. Because mentors are usually experienced, older employees, they may be at a point of perceived stagnation. Adding a novel element to their job could make them curious about the possibilities and cause them to wonder how they would react and feel in such an experience. Adding the role of mentor to an existing position creates new responsibilities and adds variety to tasks that otherwise may have become routine.

Choice. Humans want to have control over their lives and the decisions they make (Deci & Ryan,1985). One of the necessities of a mentoring program, according to Phillips-Jones (1983), is that participants should only be asked to join the program on a voluntary basis. Freely choosing to participate and contribute to an activity creates interest in that activity. Allowing such choices has been shown to increase both initial selection of those tasks and the amount of effort invested in carrying them out (Newby & Alter, 1989). On the other hand, if participation in a mentoring program is mandatory or dictated, participant motivation may be restrained.

Choice and control are demonstrated by a mentor as he or she determines the roles most appropriate given the circumstances of the partnership (Bernstein & Kaye, 1986). The roles of a mentor, as we have described, may include counselor, role model, teacher, and coach. This aspect provides many options and routes to pursue in creating a successful mentor/protegé partnership. Additionally, the program is basically in the control of the mentor. How it proceeds, the sequence of events, and the degree of difficulty of the attempted tasks are all directly under the control of the mentor. His or her decisions will have a dramatic effect on the protegé and the overall success of the program.

Complexity. A third contributor to intrinsic motivation concerns the potential complexity encountered within a specific situation. Individuals focus on and invest effort in tasks of moderate complexity (Newby, 1990). Mentoring provides a diversity of complex problems that will be encountered by those involved. For example, the ability to successfully play and manage the many roles of a mentor can involve a high degree of complexity. Under normal, non-mentoring conditions, personal and professional relationships are typically separated. However, within a mentor partnership, being both a personal and professional mentor are generally needed for program success. This adds variety and complexity to the task and ultimately increases the intrinsically-motivated effort invested by the parties involved.

Cooperation. Cooperation involves assisting and helping others. Individuals feel challenged, stimulated, and creative in providing mentoring functions as they become "senior adults" with wisdom to share (Kram, 1983). Working together for the purpose of developing another individual can be highly motivating. Hunt and Michael (1983) supported this assumption by stating that mentors often get satisfaction and confirmation through helping less-experienced individuals in their development. They also reported that mentors rejuvenate themselves through passing on wisdom and experience they have learned. Finally, mentors often invest effort because of the satisfaction gained from knowing their experiences and work may be used and continued through another individual.

Challenge. According to Newby (1989), a challenge is perceived by those who actively seek to reduce incongruity. For mentors, incongruities may be found in the experiences they have had in the past and how those can be best related to the current experiences of their protegés. How can the experiences they design for their protegés be best constructed and delivered? How can they ensure that the protegé will understand all that is needed? How can previously unencountered problems be attended to and potentially solved? Such questions offer challenges to every mentor; moreover, investment of effort to find their solutions creates interest and subsequent motivation for the program.

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Mentors also encounter the challenge of playing various roles, such as coach, role model, and general problem solver. Mentors may find their goals, values, and methods of organization differ completely from those of their protegé. Working with another individual challenges the mentor to improve his or her interpersonal skills and general problem-solving abilities. Additional challenge stimulates the investment of effort and the potential intrinsic interest in the task itself.

Competence and confidence. Motivation is increased for tasks in which the participant is allowed to demonstrate his or her knowledge and abilities in a specific area of focus (Newby, 1989). Humans enjoy undertaking tasks in which they feel competent. Additionally, individuals expend more effort when they perceive they have the ability to accomplish the task (Keller, 1979). Mentoring allows for the experienced individual to demonstrate and use his experience and competence plus build confidence in his or her own abilities. Confidence for the mentor is increased as his or her information and guidance is used and the protegé begins to accomplish. Feeling competent in one's job and abilities allows for strengthened self-confidence and esteem. Mentors report an increase in feelings of worth due to contributing to the protegé and the organization through the mentoring program. Opening doors and transmitting values and skills give rise to personal satisfaction.

Mentors have reported high amounts of satisfaction due to directly influencing the development of younger individuals (Kram, 1983). Additionally, the mentor's confidence in his or her own abilities and his or her overall subject matter competence can be increased through teaching someone else. By teaching one's own practices and knowledge, personal abilities are rehearsed, practiced, and improved (Thies-Sprinthall, 1986).

Of all of the aforementioned sources of intrinsic motivation, competence in one's abilities and confidence in those abilities is the most discussed benefit for mentors within such programs (Zey, 1984). Not only is the mentor contributing to his or her protegé's competency, but he or she is improving personal competencies by reexamining, demonstrating, and teaching previously learned knowledge and skills. Having satisfactorily performed, mentors may remotivate themselves to avoid technological obsolescence, hone their interpersonal skills, and increase their feeling of self-worth (Noe, 1988).

The intrinsic factors of curiosity, personal control and choice, complexity, cooperation, challenge, competence and confidence have each been examined and explained as potentially adding value and motivation for individuals participating as mentors. Although each factor may not be experienced by all participants within each mentor program, these factors combined with extrinsic incentives and the benefits experienced by the protegés produce programs that are successful for all involved.

Guidelines to Increase the Value of Mentoring Programs

Throughout this paper the focus has been directed to the value of mentoring and the positive impact such an experience can have on the different participants. Based on these suggestions and explanations, several guidelines can now be presented which should be considered before, during, and after the implementation of a formal or informal mentoring program. These guidelines are designed to accentuate the value of mentoring and thus increase participant motivation for mentoring programs.

1. Establish a clear set of goals and objectives. From an instructional design point of view, goals help to delineate differences between present and desired levels of performance, identify the needed resources, and serve as reference points for comparison and adjustment as changes are attempted. From a motivational viewpoint, establishing goals helps identify the relevance of what is to be accomplished from program participation. Research by Keller (1987) and others (Lepper, 1988; Newby, 1991) have shown knowledge of task relevance to be a key factor leading to the investment of effort by individuals. Goals help identify and highlight what participants can expect to attain from the program and why it is important to invest the time and energy.

In most cases the goals of a mentoring program, as in other instructional programs, focus on the desired outcomes of the protegé or learner. Mentoring goals may emphasize vocational or educational outcomes, such as increased levels of technical competence or increased experience and exposure, and/or psychosocial outcomes, including working with a role model or receiving support and encouragement (Jacobi, 1991). Of equal importance within such a program is the determination and publication of the goals and objectives of the participating mentor. Just as protegés need to know the potential outcomes, the mentors need to be able to identify what is in it for them. These goals, for example, may include the following: increased levels of personal output due to the help of a competent assistant; increased teaching abilities; finer-tuned interpersonal skills; and elevated feelings of challenge and competence generated from helping another individual.

2. Orient the participants. Before beginning a mentor/protegé relationship, clearly outline the purpose, needs, benefits, and expectations. Phillips-Jones (1982) cited missed expectations as a major contributor for failed mentoring programs; therefore, from the outset the participants should be given a clear picture of all aspects of the program.

During the orientation discuss the roles, responsibilities, and qualifications of both the mentor and the protegé. This orientation can be used as an initial screening to help identify those individuals who are not prepared, have unattainable expectations, or who may need supplemental training before attempting the role of either mentor or protegé. Matthes (1991) additionally points out success of voluntary mentoring participation versus those of a

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more constrained nature. The orientation provides an opportunity to examine and evaluate the basic reason(s) for taking part.

3. Evaluate and match mentor personal characteristics, skills, and goals with the characteristics and needs of the protegés. Both individuals have a greater chance of gaining from the relationship if complementary goals and needs are successfully aligned (Gray, 1986). Clawson (1980), Orth, Wilkinson, and Benfari (1987), and others (e.g., Dalton and Thompson, 1986; Noe, 1988) have identified many personal characteristics of both the mentor and the protegé that, when appropriately matched, can facilitate a successful relationship. For example, individual levels of supportiveness, empathy, nurturance, openness, and encouragement plus the desire to motivate and develop talent are relevant mentor characteristics. Relevant characteristics of the protegé include ambitiousness, loyalty, respectfulness, ability to learn, and the desired degree of work effort. In addition, the value of the relationship is increased when a mentor/protegé pairing is matched based on style of thinking, background experiences, and manner of interpersonal communication (Odell, 1990; Parkay, 1988).

A problem frequently encountered at this time is when a compatible match is not generated. This is especially prevalent with women and other minorities who wish to be mentored (Haring-Hidore, 1987). Swoboda and Millar (1986) suggest in such situations the use of a network mentoring model in which peers and colleagues are used at different times and to different degrees. In this situation, one plays the role of the mentor in some cases and the protegé in others. Through a network, a single individual may have one peer to share information, another to give job-related feedback and still another to provide emotional support and personal feedback.

4. Train mentors to increase the effectiveness and subsequent value gained from the mentoring program. Many individuals have not naturally developed the skills required for being a good mentor, thus they require training. Gray (1986) suggests inter-personal communication as one such critical skill that should receive a training focus. Likewise, because of the evolution of the mentoring relationship across the various stages, training on change and flexibility is often warranted. Moreover, training involving the determination and/or alteration of expectations is frequently needed.

5. Allow the mentor/protegé pair to work together on a trial or preparatory basis for a brief period. This provides time to get acquainted with each other and their roles within the relationship, resolve logistical problems such as scheduling conflicts, and begin to discern each other's capabilities and how they can best be used. After this period, it is imperative to review the roles, responsibilities, and expectations, as well as the goals of the association. At this point one is in a much better position to determine if the relationship's benefits outweigh the costs and if an investment in a long-term commitment should be made. In most cases, fine-tuning occurs and the relationship goes on; for other situations it offers a good avenue to stop a non-beneficial or negative relationship before a big investment of time and energy has been made.

6. Monitor, evaluate, and make adjustments throughout the term of the mentoring relationship. A mentoring process is dynamic; as it evolves through the various stages, changes and adaptations need to be made in order for the participants to continually reap benefits. As suggested by Gray (1986) and Heller and Sindelar (1991), mentoring must be evaluated on a continuous basis. Although mentors and protegés should be communicating and making adjustments as problems are encountered, it is important to set aside specific, periodic time intervals in which the program and overall progress are evaluated. Both individuals should review what they have experienced, what has been gained, and what costs were incurred. Often during these evaluations, individual differences in perception of what is being experienced and what is desired can be voiced and avenues for enhancing the experience can be determined.

During the evaluation, pay attention to potential problems and pitfalls that can reduce overall value (Phillips-Jones,1982). These include (a) the allotted time and energy commitments; (b) the expectations and demands placed by one member on the other; (c) the egos of those involved—e.g., the unwillingness of a protegé to learn and/or a need for dominant control by the mentor; (d) feelings of jealousy generated between mentor and protegé or by others because of the mentor/protegé pair; and (e) overdependence of one member on the assistance of the other.

7. Engender and encourage protegé independence. This final guideline deals with what happens as the mentoring process draws to a close. Mentoring as suggested by Odell (1990) is a finite process and should result in increased self-reliance by the protegé. Following the cultivation stage, in which the mentor plays a major, direct role in counseling and instruction, the separation process slowly begins. At this time, the mentor must guide the protegé to become more and more independent and self-reliant. As suggested by Odell (1990), the protegé should emerge as a self mentor or "automentor." At this point, it is important to remind the protegé and mentor of the benefits received from the experience. They should be encouraged to volunteer for additional mentoring opportunities as those opportunities are found.

Conclusion

Mentoring is an effective means of facilitating the learning of inexperienced individuals. Of equal importance, however, is that those who participate as mentors also receive direct benefits from their involvement. Although extrinsic means, such as recognition and monetary rewards, may lead to added participation, motivation for mentoring can also be effectively increased through intrinsic means. Direct results include increased competence and feelings of confidence in one's own

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abilities, and increased enjoyment of the mentoring task due to experiencing and exploring the novel, complex, and challenging problems of closely teaching and guiding another individual. By implementing the suggested guidelines, the value of the mentor/protegé relationship should be enhanced for all involved.

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MEASURES FOR MENTORS

by Adrianne H. Geiger

In the rush of doing business, staying competitive, and watching costs, employee development activities at many companies become suspect. They fall prey to cost-cutting strategies and drop lower on the list of priorities—even in progressive companies that regard people as their "most valued assets."

Douglas Aircraft in Long Beach, California is keeping its employee development programs alive—despite lay-offs, contract losses, and cash-flow problems.

In 1990, parent company McDonnell Douglas launched People Policies. They form the cornerstone of the company's human resource activities.

The policies emphasize the importance of continuous learning, improvement and innovation. Their goal is to motivate employees to learn, grow, and develop—or as the policy states, to make McDonnell Douglas a place where "great people grow and prosper."

"Every employee at McDonnell Douglas has responsibility for implementing the policies. And each has a personal stake in their success," says John McDonnell, chairman and CEO. "Employees' incentive and commitment seem to weather the ups and downs of business cycles."

New Strategies

At Douglas Aircraft, lean times have fostered a results-oriented mindset. Part of surviving depends on setting clear performance goals and being able to measure results.

General managers now include people development as part of their performance goals. The next step is to ask, "How will I measure the results? How will I know if the time expended was worth the cost? What can I do to improve the effort?"

Some vice-presidents even demand that their general managers make distinctions in measurement between acceptable performance and exceptional performance.

Human resource professionals have always tried to measure and validate the benefits that their efforts bring to a company. But many skills associated with being a good manager—including the skills required for employee development—are difficult to quantify. So the HRD specialists at Douglas Aircraft faced quite a challenge when general managers asked us for help in defining and measuring their efforts to develop people.

Mentoring is one area in which we now have a process for tracking our program's effectiveness.

The Mentoring Policy

One of the 12 People Policies at McDonnell Douglas is called, "Career Counseling and Mentoring."

Its objective is "to enable people to contribute fully over the course of their careers, by providing periodic formal reviews of their individual career objectives and by providing informal mentoring support."

The policy describes mentoring as a two-way process that is important to career development. "Each person should seek to be a mentor and each person should try to have one or more mentors."

As the mentoring policy was communicated down through the company, employees at every level began asking, "What do I need to do to be a mentor?"

A Previous Effort

In the past, we'd instituted a pilot program on mentoring for 31 of the company's top performers. The initial workshop was a success. Each participant had a multi-rater instrument completed by his or her boss, subordinates, and peers.

The feedback data seemed to be useful. Participants received accurate, comprehensive information on their managerial performance. And they gave us positive feedback on our choice of instrument.

We thought we had launched a successful mentoring effort. We had good information with which to begin mentoring discussions. And several mentor relationships prospered.

But as time passed, reorganizations, layoffs, and business pressures over-shadowed the mentoring program. Many mentor relationships fell by the wayside.

As one employee said, "We had a pleasant time sharing stories. But I don't feel I got anything out of it that made me look at work differently."

Clearly, we had to devise a way to measure the results of mentoring.

A Tool for Measuring Results

The first step in creating an appropriate means to measure the results of mentoring was to define the term. We pored over the vast amount of mentoring literature for definitions that best fit our goals.

People involved in the task rated definitions, based on how practical and how applicable they were. The break-

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through came when Rudy Bess at Douglas Aircraft in St. Louis provided an article on mentor roles. The role descriptions gave us a place to start. And they helped managers understand what might be expected of them as mentors. (See the sidebar, "Mentor Roles in Career Development.")

It's easy to measure the number of mentor relationships in your company. But it's not so easy to measure the expectations of people in these relationships.

We decided to base our evaluations on job performance and career enhancement. "Mentorees" use a written form to evaluate mentors on two aspects of mentoring:

- The roles the mentor fulfilled best,
- The effects of the mentor/mentee discussions.

We asked participants to discuss the evaluation form early in their mentoring discussions. We wanted them to know the rules and to understand how the mentoring process would be evaluated.

The evaluation method is as much a learning tool as it is a measurement tool. It provides a framework for the mentor and mentoree to discuss the importance of performance improvement. It describes specifications and behaviors that each participant can identify, look for, and

Mentor Roles in Career Development

Writing role descriptions for mentors is a useful start to the process of planning a mentoring program with built-in evaluation. Douglas Aircraft's program began with seven role descriptions:

Communicator
- Encourages two-way exchange of information,
- Listens to career concerns and responds appropriately,
- Establishes an environment for open interaction,
- Schedules uninterrupted time to meet with mentoree,
- Acts as a sounding board for ideas and concerns.

Counselor
- Works with mentoree to identify and understand career-related skills, interests, and values,
- Helps mentoree evaluate appropriateness of career options,
- Helps mentoree plan strategies to achieve mutually agreed-upon goals.

Coach
- Helps to clarify performance goals and developmental needs,
- Teaches managerial and technical skills (OJT),
- Reinforces effective on-the-job performance,
- Recommends specific behaviors that need improvement,
- Clarifies and communicates organizational objectives and goals,
- Serves as a role model to demonstrate successful professional behaviors—leads by example.

Advisor
- Communicates the informal and formal realities of progression within the organization,
- Recommends opportunities for training,
- Recommends appropriate strategies for career direction,
- Reviews developmental plan on a regular basis,
- Helps mentoree identify career obstacles and take appropriate action to overcome them.

Broker
- Expands the mentoree's network of professional contacts,
- Helps bring together mentorees who might mutually benefit from helping each other,
- Helps link mentoree with appropriate educational and employment opportunities,
- Helps the mentoree identify resources required for career progression.

Referral Agent
- Identifies resources to help mentoree with specific problems,
- Follows up to ensure effectiveness of resources.

Advocate
- Intervenes on the mentoree's behalf and represents his or her concerns on specific issues to higher-level managers,
- Arranges for mentoree to participate in highly visible activities within the organization and outside of it.

(Adapted from the article, "Training Managers for Their Role in a Career Development System," by Zandy B. Leibowitz and Nancy K. Schlossberg, *Training & Development Journal*, July 1981.)

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use. It provides immediate feedback in a relatively low-risk environment. And both mentor and mentoree can use it to examine and assess the relationship.

(See the sidebar, "A Mentoring Evaluation Tool," for an example of an evaluation form for mentoring relationships.)

We make it clear from the beginning that not all mentoring relationships are successful. Anyone may choose to stop taking part in the mentoring process at any time.

Success Factors

Mentoring takes many forms. It can be informal or formal, planned or spontaneous. Planned mentoring programs, such as ours, should let people know what is expected of them when they become involved in a mentor relationship.

We define mentor roles at the outset. We communicate ways in which mentors can advise and counsel people. We provide descriptions of roles, actions, and behaviors for mentoring. And we hold discussions on

A Mentoring Evaluation Tool

What follows is adapted from a questionnaire used to evaluate mentor/mentoree relationships at Douglas Aircraft.

The questionnaire is filled out by the mentoree, who first is asked to provide basic biographical information (name, department, and so forth).

Evaluation of Mentoring Relationship

The first two questions of this section ask the mentoree how often he or she has been meeting with the mentor and how committed the mentor has seemed to the time spent together.

The questionnaire then goes on to ask about the variety of roles a mentor plays. The employee is asked to evaluate the kind of help received from the mentor, by marking each of ten statements on a continuum that rates the mentor's efforts as follows: significant help, modest help, little help, and no help.

The seven roles are the same ones described in the sidebar, "Mentor Roles in Career Development." The statements:

- **Communicator.** My mentor encouraged a two-way exchange of information and acted as a sounding board for my ideas and concerns.
- **Counselor.** My mentor helped to interpret and clarify the organization's culture, political structure, and vision.
- **Coach.** My mentor gave specific interpersonal feedback and served as an independent third party to clarify my thinking on such items as performance goals and developmental needs.
- **Advisor.** My mentor provided information about career opportunities and options and suggested appropriate strategies.
- **Broker.** My mentor acted as an agent or go-between, to locate appropriate resources and contacts.
- **Referral Agent.** My mentor identified resources to pursue for more information.
- **Advocate.** My mentor intervened on my behalf and represented my concerns to higher level managers.
- **Other Roles.** (please specify)

Results of Mentoring Discussions

This section looks at the effects that discussions with the mentor have had on various areas of the employee's development. The mentoree is asked to respond to the statements listed below, by marking each on a continuum of the following scale: high impact, medium impact, low impact, no impact.

The areas on which the mentoree is asked to respond:

- A better understanding of the workings of the organization,
- An expanded network of professional contacts.
- A wider range of topics on which to communicate,
- More self-confidence and a better awareness of the mentoree's contributions,
- More knowledge of the mentoree's work and its technical requirements,
- More specific information about the mentoree's management style,
- More accurate feedback about how customers perceive the mentoree,
- Insight and information on solving problems,
- Insight and information on performance improvement,
- Insight and information on managing more effectively, and
- Other (please specify).

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people's expectations and on the ways results are to be measured. We show mentors how to become more effective.

Human interaction is perceived subjectively. People may not agree on what roles mentors should play. And they may not agree on what the results of mentoring should be. But the role descriptions provide a framework and starting point. Participants can use that framework as a basis for discussing the possible benefits of mentoring.

The Benefits

Employees who perform well spend time evaluating their performances in their jobs. They rehearse, play their performances back, and improve with experience.

Mentors can play an important role in developing effective performers. Mentors listen, ask questions, provide insight, collect data by observation, and give feedback.

After two years of the program, not everyone in the company is mentoring or being mentored. But the mentoring concept has become part of the everyday language. And several parts of the company have active areas of planned, formal mentoring.

At Douglas Aircraft, a planned, effective program of evaluation has helped mentoring to become a strategy for improving job performance.

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TERMINATING A MENTOR RELATIONSHIP

Source: "Is It Time to Leave Your Mentor?" by Michele Morris, *Executive Female*, March-April 1992, pp. 40-43

The mentor-protege relationship is as important as it is powerful, this author says, but she warns that it is also a sensitive one that offers many opportunities for misunderstanding and estrangement. This article explores the delicacy of dealing with the separation that must inevitably come in a sound mentoring relationship. The author lists several signs which indicate that the time for separation has come:

- Feeling that you've heard the advice you're being given before, or that you'd already thought of it yourself,
- Feeling confident about handling tasks that were once intimidating,
- Realizing that the mentor's goals are different from yours, and that the mentor is pushing her or his own agenda,
- Getting another offer of mentorship,
- Feeling that you are forcing your enthusiasm, or
- Seeing the mentor become more critical or sarcastic.

Leaving the mentor is explained as a growth process that often requires encouraging the mentor to accept and acknowledge the protege's independence as much as it requires patience and self-understanding from the protege. The separation is also looked at from the mentor's point of view, and the author suggests that the mentor can ease the transition by anticipating it ahead of time and discussing with the protege the signs that will indicate that the time for change has come. (AN240)

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C-5. SUCCESSION PLANNING

TDY 93/94 CASE STUDY: SUCCESSION PLANNING AT SCOTT PAPER

Source: "Succession Planning Drives Plant Turnaround," by Robert J. Sahl, *Personnel Journal*, September 1992, pp. 67-68, 70

A succession planning system has been credited with helping change the way managers at Scott Paper Company view their jobs and with producing a 35% increase in plant manufacturing capacity. In a response to employee dissatisfaction after years of downsizing and confusion as to employee job roles, the company began the succession planning system as part of an overall skills training and management development program. This article tells how the company worked with the consulting firm of WMS and Company to create the succession planning system through: (1) provision of detailed and clear job descriptions for each of the positions covered in the succession plan, (2) individual assessments conducted by professional psychologists, designed not only to test and evaluate potential promotional candidates, but also to provide them with immediate and open feedback aimed at improving their commitments to their own development, and (3) written feedback reports from the consultants to Scott. According to company leaders, the program has helped improve managers' perceptions of their jobs and their places in the company's future, and this has corresponded with dramatic changes in the attitudes of their employees, as well. (AN241)

TDY 93/94 CASE STUDY: SUCCESSION PLANNING AT AT&T AND 3M

Source: "Succession Planning Helps Companies Map Their Futures," by Randall Johnson, *Training Directors' Forum Newsletter*, January 1992, pp. 1-3

Many companies are realizing that succession planning has been a blind spot in their corporate vision. The author describes the approaches of 2 large firms:

- With the Bell System break-up and the death of the CEO, AT&T instituted a 6-step system for succession planning: (1) identify the business or market conditions that drive leadership requirements, (2) translate the business strategy into leadership and job requirements, (3) assess current talent against future job requirements, (4) identify gaps in skills, experience, and knowledge, (5) put career development plans in place to bridge gaps, and (6) monitor development plans.
- At 3M, a career pathing program was implemented. Executives identified a number of critical experiences or events which helped mold top management: (1) cross-functional moves, (2) placement in varied businesses, (3) placement in businesses at different cycles, (4) line and staff assignments, (5) firing line and think-tank assignments, (6) assignments with international responsibility, (7) start-up/shutdown and maintenance/growth mode experience, and (8) environmental diversification. Consensus discussion for career advancement, already in use at the executive level, was adapted for use at lower levels. (AN242)

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C-6. WOMEN'S CAREER DEVELOPMENT

LEADERSHIP DIVERSITY AND LEADERSHIP CHALLENGE

by Ann M. Morrison

Diversity in the workforce is rapidly becoming a fact of life in America. According to recent estimates, perhaps eighty-five percent of the net new workers entering the workforce before the turn of the century will be from groups other than native-born white men (see *Workforce 2000*). Diversity in leadership, however, has been slow in coming. People of color and white women are, even after twenty years of affirmative action and some gains,[1] greatly underrepresented in the management ranks, especially at the top levels.

This situation is likely to have a number of serious consequences, including labor unrest caused by the unequal opportunity of a two-tiered system, customer dissatisfaction because management is out of touch with growing markets made up of women and people of color, and a diminished competitiveness because a large pool of high-potential managers is not being tapped.

The Center [for Creative Leadership] recently conducted a study concerned with how this situation can be changed. Called the GOLD Project (for Guidelines on Leadership Diversity), it involved extensive, confidential interviews with a diverse group of nearly two hundred managers from sixteen organizations (twelve in business, two in education, and two in government). These progressive, U.S.-based organizations are models in the sense that they all have made advances in promoting diversity within their management.

The 1992 book, *The New Leaders*, reports at length on the findings of this study. This article concentrates on one issue: understanding how one generally recognized aspect of leadership development— challenge—relates to developing leadership diversity.

Challenge as a Key to Leadership Development

It is now widely recognized that a good way to encourage the development of leadership in managers is to give them a series of challenging assignments. Witness, for instance, the practice of having managers who are identified as likely to become effective executives (so-called high potential managers) rotate into new jobs every year or two. It is believed that this not only exposes people to the workings of an organization but also puts them into situations in which they must develop new skills or improve old ones.

Research done at the Center (see Lindsey, Homes, & McCall, 1987; McCall, Lombardo, & Morrison, 1988) has given us a more specific understanding of this general developmental method. We identified the developmental assignments that typically figure in the success of white male managers (for example, promotions with dramatically increased responsibilities, transfers into staff functions at corporate headquarters, serving on task forces, troubleshooting stints, and start-up experiences that often involve time overseas), and we found eight sources of challenge shared by these assignments (McCall *et al.*, 1988, pp. 124-131):

1. **Dealing with the Boss.** Challenge arises when the boss is inexperienced or indifferent. The boss may also have a difficult style or even serious managerial flaws.
2. **Dealing with Staff Members.** Challenge arises when the staff is inexperienced, recalcitrant, or incompetent. Some staff members may hold a grudge against the manager for being promoted over them.
3. **Other Significant Relationships.** Challenge can come from having to present to senior executives, negotiate with outsiders, and collaborate with people from different backgrounds and functions or regions of the organization.
4. **High Stakes.** Challenge comes from the extreme visibility of certain assignments, especially with top management. Tight deadlines and financial risk add to the challenge.
5. **Adverse Business Conditions.** Often seen in overseas assignments, the challenge here is a result of physical hardships (because of a harsh climate or the lack of adequate living facilities), hostile governmental officials, or local business practices and values that differ from the manager's own.
6. **Scope and Scale of the Job.** Challenge comes from managing a large number of subordinates, including some who are geographically distant and some who have a superior technical knowledge.

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7. **Missing Trumps.** Challenge comes from the lack of traditionally required credentials or background characteristics; the manager is required to establish credibility while learning a new job.
8. **Starkness of Transition.** Challenge results from the suddenness or extent of change involved in the transition; sometimes the manager's personal life changes as the job changes.

These eight sources might be considered the standard model of challenge for traditional, white male managers. Elements of it are recognized in many organizations and have even sometimes been incorporated into their development programs and tools. It is, thus, being used to understand and plan for the development of many of today's managers. The question is, does this model work well for nontraditional managers—for people of color and white women?

There is evidence suggesting that, despite some common ground, the developmental picture for nontraditional managers is distinct from that of white male managers. For instance, the Center's research on white female executives found that the group of developmental assignments they reported as being important overlapped with but was not the same as that reported by white male executives (see Morrison, White, & Van Velsor, 1992; Van Velsor & Hughes, 1990).

Findings from the GOLD Project indicate that, although these eight elements surely play some role in the development of nontraditional managers, the model does not adequately cover the challenge faced by them. It fails in two ways: First, there are important challenges that they typically encounter that are not included here; and, second, the model does not recognize that some of the challenges require more effort from them than from traditional managers. The additional and exaggerated challenges may not be taken into consideration when planning or assessing the developmental assignments given to nontraditional managers.

Additional and Exaggerated Challenges

Nontraditional managers often encounter major barriers—such as prejudice, isolation, and serious conflicts between career and personal life—that create additional challenges for them. It is not difficult to imagine, for example, the increased difficulty of dealing with a boss who not only lacks some skills and has a difficult style but who is also prejudiced. (I define "prejudice" as the tendency on the part of many people to see differences as weaknesses.) Similarly, there may be added difficulty in dealing with prejudiced subordinates, peers, and outsiders. The addition of prejudice to the first three sources of challenge complicates and deepens them in ways not encountered by many white men.

In addition, because of prejudice, the standards of performance may be higher for nontraditional than traditional managers. In the GOLD study and in our earlier research on women in management, we discovered that nontraditional managers are often expected to perform at a higher level than white men who hold or who have held the same job. Having to do a job *better* than anyone else is likely to add to the challenge experienced by nontraditional managers.

Coping with adverse conditions is another ingredient that may increase the level of challenge for nontraditional managers. In describing the challenge of troubleshooting assignments, for example, white male managers sometimes mentioned the hostility of co-workers who resented their advice, their attempted interventions, and even their very presence. Also, their limited assignments in foreign countries sometimes entailed coping with capricious or unfriendly government officials. Such problems are typically confined to certain types of assignments or locations in the reports of traditional managers; but they appear to constitute the daily life of many nontraditional managers—even those in the progressive organizations included in our study.

Our findings indicate that there is still a great deal of resentment and hostility from subordinates who dislike reporting to anyone not white and male, and from co-workers who feel threatened when working side by side with a nontraditional manager. Some colleagues may not be hostile but merely skeptical. They may not be directly opposed to an integrated workforce but they suspect that nontraditional managers are simply not up to the task; consequently they are cautious in the way they relate to, delegate to, and rely on a white woman or a person of color. Such co-workers, consultants, suppliers, and customers may rationalize the presence of nontraditional managers as the outcome of a quota system. A Chinese manager in our study said that her boss had told her to "be as un-Asian as possible" and to have her Asian subordinates "be un-Asian" as well because the department "looks like an Asian connection." She has to be concerned on a daily basis with the effect of looking, acting, and seeming Asian as she performs her job.

There is also evidence from this study and other research that the pressure and visibility associated with their performance may also be greater for nontraditional managers, adding even more challenge to their work. All conscientious managers are likely to feel pressure to perform their jobs well, but our research indicates that a nontraditional manager is noticed, watched, and judged more than a traditional one, if only because the former stands out in the management ranks.

The added pressure of working under these circumstances is frustrating and draining. One Hispanic manager in our study explained, "Those minorities who are going up get excess scrutiny. They are put under a microscope, and there is pressure not to screw up." And the observers include not only the manager's bosses and colleagues—who may be curious, if not doubtful, about their competence—but also other nontraditional colleagues who desperately want them to succeed so that they, too, may be given a chance some day to show their worth.

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The burden carried by many nontraditional managers to represent their demographic group while performing their job is one that can raise the level of challenge beyond that of white male managers in any assignment they have. Because they represent not only their organization but also their ethnic or gender group (and sometimes even the concept of diversity in general), they are constantly called upon to promote the cause. The media want them for stories and profiles. Social scientists want them for research projects. Other members of their group, with ambitions of their own, want them as role models and regularly call them for advice or favors. Their bosses sometimes nudge them to serve on committees and task forces as the ranking woman or person of color to represent that point of view. Employee groups ask them to mentor other nontraditional managers. Top management may want their help to recruit nontraditional managers. The amount of necessary "volunteerism" within and outside the organization is higher for them, even though they must continue to do their jobs in a consiste outstanding fashion to stay in good stead with t bosses.

Although some nontraditional managers sl volunteerism, and some traditional managers elec contribute considerable time to volunteer work, the r ity seems to be that people of color and white women generally under a great deal of pressure to do more o Those who don't support traditional activities run the of alienating their white male colleagues. Those v don't support their demographic colleagues risk be ostracized by them. Their visibility permits them refuge from multiple, sometimes conflicting, obli tions.

Another aspect of challenge for many nontraditio managers is balancing career demands with outside mands. The managers in our study generally agreed t women experience this more than men; the responsib ties of bearing and raising children, maintaining a hou

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RESEARCH SUMMARY: CATALYST STUDY OF WOMEN'S CAREER ADVANCEMENT

Source: *On the Line: Women's Career Advancement,* Catalyst, 1992, $85

When Catalyst's 1990 survey of *Fortune 500* and *Service 500* companies pointed to women's lack of line experience as a barrier to continued advancement, Catalyst launched a new study to explore the impact of line and staff experience on women's career development, as well as intangible barriers to advancement. This book is based on 135 interviews and 27 focus groups with male and female senior managers, middle managers, and human resources professionals from a variety of industries. Some of the report's findings are:

- The terms "line" and "staff" hold vastly different meanings from company to company.
- Experience in core areas of the business—sales, production, or marketing—is vital for career advancement. Support functions such as human resources, law, or finance do not usually offer the critical experiences that senior managers are expected to have acquired.
- Intangible barriers to advancement include: (a) discomfort men feel relating to women as colleagues, (b) the exclusion of women from informal communication networks, (c) the depth and extent of stereotypes held by colleagues and customers, (d) ineffective methods of performance appraisal, (e) lack of access to networks and mentors, (f) and assumptions and attitudes about career, family, and relocation.
- Highest-ranked senior managers' advice to employees seeking advancement were: demonstrate results and effort (48%), possess political savvy and visibility (41%), and take charge of your career (32%).
- Putting women in line jobs was perceived risky by 60% of the human resource managers surveyed. Over half of senior managers reported that movement between line and staff was not common in their companies, and where such movements occurred, most managers characterized them as unidirectional, or from line to staff and back to line. Most moves from staff to line are made by ambitious, high-potential performers early in their careers.

Following a presentation of the findings, a discussion of proposed strategies and solutions completes the report. (AN243)

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hold, and managing social relationships are still disproportionately borne by women. Women with the financial means to hire help may be freed from these duties personally, but that does not reduce their degree of responsibility. They still must hire and manage people to perform these jobs, intervene when sickness or problems occur, and account for the results. The continual challenge of juggling home and family with job demands creates conflict and stress that women in particular are expected to manage. Some men are also strained in seeking a balance between the two; Hispanic men may be especially vulnerable, as some managers noted, because their culture puts a high value on family life.

Overall, it appears that the level of challenge in a given assignment is considerably higher for nontraditional managers than for traditional managers. The former must combine the demands of meeting higher performance standards, regularly confronting adversity such as hostility or harassment, working under great scrutiny and contending with the expectations of both traditional and nontraditional groups, and struggling day after day with caregiving and social duties. Some executives may have concluded that if nontraditional managers have more difficulty performing an assignment it must be because they are not as capable as their white male counter parts. But this view can be countered with the argument that nontraditional managers are facing greater challenges that are both within the assignment and surrounding it. The "same" assignment given to a traditional and nontraditional manager is not the same at all.

The Danger of Limiting Challenge

Because of the extraordinary challenge faced by nontraditional managers, some organizations may be tempted to provide some relief by assigning them to less consequential jobs. But this only blocks their advancement. Nontraditional managers are already more likely to be put into positions, often peripheral staff jobs, considered less important to the organization's performance. Then, when a higher-level opening comes up, they are not likely to get the job because of a lack of experience in strategic, central posts.

Instead of reducing the level of challenge by limiting nontraditional managers to assignments perceived to be less critical (and therefore less demanding), one alternative is to reduce demands from other sources: Use the same performance standards for all managers, traditional and nontraditional; reduce the impact of prejudice; promote a larger cadre of nontraditional managers so that the demands on any of these individuals to represent their demographic group are lessened; provide benefit packages that allow managers to fulfill outside obligations while pursuing their careers. Such alternatives can provide relief from some of the additional sources of challenge without interfering with the advancement potential of the nontraditional manager.

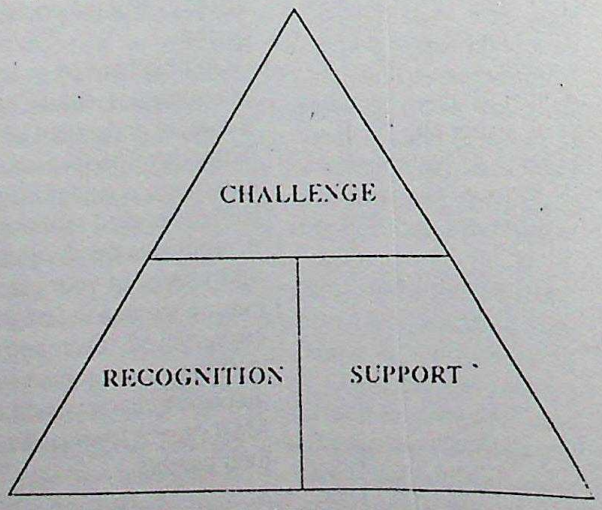
Conclusion

Perhaps the biggest mistake that organizations make when attempting to increase leadership diversity is misusing challenge. Challenge is either heaped onto nontraditional managers until they burn out or opt out, or important challenges are withheld from them, causing them to plateau or derail.

Furthermore, organizations often rely on challenge alone to develop managers. This concept of leadership development is, in my view, too simplistic. Organizations must also provide managers with recognition and support.

What I mean by *recognition* is acknowledgment of, and rewards for, achievement. It can come in many different forms, including: pay (salary and total cash compensation); promotion (advancement to positions of greater responsibility); perquisites (a company car, club memberships, financial incentives and advice, and so on); participation (inclusion in decision-making); autonomy (freedom to act on one's own without supervision); resources (adequate staff, budget, and time to do the job); respect and credibility (one's priorities and opinions are taken into consideration and valued); and faith (the expectation that one's productivity will continue in increasingly responsible positions).

By "support," I mean understanding and acceptance of each manager's individual situation, plus benefits that provide help in that situation. Common forms of support are: collegiality (friendly association with co-workers); advocacy (backing and endorsement); permission to fail (the leeway to make mistakes that one can learn from); information (news about the business and the organization); feedback (data about one's abilities, prospects, and reputation); flexibility (the option to tailor a job to one's own strengths or circumstances); and stress relief (the reduction of anxiety and tension by accommodating family and other outside demands and by preventing on-the-job hostilities).



THREE COMPONENTS FOR SUSTAINED LEADERSHIP DEVELOPMENT

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But merely seeing that these elements are present is not enough; they must be in balance. When challenge, recognition, and support are balanced, then leadership development, and leadership diversity, are more likely to occur. In fact, the balance of these elements could be seen as a new model for sustained leadership development. The GOLD research taught us this, and the guidelines just published in *The New Leaders* explain in detail how that balance can be achieved.

Note

[1]According to an Equal Employment Opportunity Commission report (cited by Bradsher, 1988), the number of women, blacks, and Hispanics in management has quadrupled since 1970, and the number of Asians has increased eightfold.

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TDY 93/94 IN BRIEF

WOMEN AS A CORPORATE FINANCIAL ASSET

Source: "Women as a Business Imperative," by Felice N. Schwartz, *Harvard Business Review*, March-April 1992, pp. 105-113

"Your company will gain tremendous financial benefit when you accept your responsibility to women and working parents," writes the author. Using the device of a fictional memo to a corporate CEO, this article presents the case for advancing women, arguing that the bottom line will be improved as women are developed. First, the author rates companies from 0 to 5 based on their approach to advancing women. No company is beyond a "3," she contends, though Gannett, the Federal National Mortgage Association, IBM, Corning, and Xerox are trying to get to "4." The crux of the author's economic argument for developing women is contained in 8 costs of not aggressively developing women:

- You're not mobilizing your best people at the top.
- You're not maintaining quality at every level.
- You're treating a big portion of your employees as dead weight.
- You're putting a lid on the contribution individual women can make.
- You're undervaluing promising people who wish to take a role in family caregiving,
- You're wasting recruiting and training money.
- You're failing to create beacons for the best women entering the workplace.
- You could be capitalizing on a tremendous opportunity.

The article concludes with a discussion of 4 actions to loosen restraints that now hold women back:

1. **Acknowledge maternity.** Formulate clear, comprehensive disability and maternity-leave policies that will enable you to retain your best women. Work coverage during maternity leave should be planned jointly by the employee and her manager.
2. **Provide flexibility.** Permit parents to cut back to half-time and then reenter the competition for senior management jobs, partnerships, or tenure if they choose. Let parents work at home. Learn how to measure real productivity instead of counting hours spent in the office.
3. **Provide training.** Help promising women with training that includes behavioral advice. Permit them to display the qualities that are traditionally inculcated in men: competitiveness, aggressiveness, risk-taking, and long-term, dependable commitment to a career.
4. **Improve the environment.** Sensitize male managers to practical reasons for proper conduct between sexes at work. Coach women as you do men. (AN244)

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PROGRAMS TO ADVANCE WOMEN

Source: "Breaking the Glass or Just Window Dressing?" by Barbara Ettorre, *Management Review*, March 1992, pp. 16-22

How effective are the current spate of programs to development women? Overall, not very effective, says the author. She cites a recent study that shows only a 2% increase in women senior executives in the past decade. However, there are some successful programs, most of which have combinations of: (a) commitment and champions at top levels, (b) communication, (c) motivation and rationale, and (d) accountability. The author discusses several approaches which seem to work:

- Goals. Companies set numerical goals, related to the business climate and the local Standard Metropolitan Statistical Area figures. "Everybody gets crazy about quotas," says one expert, "yet organizations set goals based upon numbers. Why wouldn't you expect to find quantifiable goals regarding women and minorities today?" Examples discussed include Tenneco, Gannett Co., and Arthur Andersen & Co.
- Empowerment/compensation connection. Some companies tie a percent of a manager's bonus or salary to how effectively the manager develops women and minorities. Examples include Baxter International, Tenneco, and Xerox. Line jobs, seen as a route to advancement, however, are often taken by men, leaving staff jobs to women. Baxter International has begun to change that and has increased the number of women directors.
- Mentoring. Companies such as Chubb and Son and S.C. Johnson Wax have emphasized mentoring opportunities for women with males several steps above, channeling to them the vital information needed for advancement. (AN245)

C-7. MORE ON CAREER DEVELOPMENT

DOWNSHIFTING: THE NEW CAREER MANAGEMENT STYLE

by David Sundstrom and Brian H. Kleiner

Introduction

One day you may find yourself, a still young and competent business person, sitting in your spacious corner office, at the top of a prestigious down-town office building, staring out of the window and wondering how you are ever going to get past that equally young and competent (and therefore unlikely to retire) business person who is blocking your path to the corporate boardroom. Or perhaps your company has already "downsized" away most of the middle management positions that were once the stepping-stones to the corporate boardroom and now you find yourself having to compete against 100 people for the same positions that used to draw applications from just ten. Or maybe you have been offered one of the few remaining middle/upper management positions in your company, but it means relocating out of town; and that means your spouse, who already has a good position with a local firm, has the daunting task of having to find an equivalent position with another firm in the new city; the prospects of which are unlikely. Given the huge number of "baby boomers" and the downsizing that is occurring in today's organizations, coupled with the increase in dual-career marriages, any one of these scenarios is equally likely to present itself to you in the course of your career. Preparing a strategy for dealing with them now can mean "psychological success" later. Psychological success is the fulfillment of one's own unique goals and objectives, which may not necessarily be the same as those defined by the company or society as a whole[1]. One new career management strategy for achieving your own psychological success is "downshifting".

Employee Benefits of Using A "Downshifting" Strategy

While the term "downshifting" does imply taking a career step downwards, this step does not need to have (nor can anyone afford it to have) the same negative connotation associated with it today that it has had for so long in most discussions about career development strategies. In fact, if used as part of a strategy ultimately to fulfill your career objectives, it has a number of positive qualities. This is because downshifting is not just another word for demotion; it also denotes a move that involves

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a shift in your focus and responsibilities, which enables you to reap broader benefits than can be measured simply by your position on an organizational chart. As an employee you profit from the "stretching" effect and the challenges which come with any new position. At the same time you need not sacrifice other aspects of your life outside work; and, in fact, because the overall level of your responsibilities may actually decrease, you may find you have more time to pursue these other interests. As demographic and organizational changes continue to take place it is important that people begin to rethink the entire job milieu, from non-traditional angles[2].

Downshifting represents an opportunity to "stretch" yourself in other equally challenging and motivating positions and avoid career dead-ends. It is better to move around on a plateau, acquiring a broad base of experience, than to wind up with an outdated and useless set of skills. The latter may cost you your job, but the former may result in an opportunity to move off the plateau. For instance, Lotte Bailyn and John Lynch of MIT found that those engineers they studied, whose jobs had changed over a period of several years (but not upwards), were "more satisfied and involved than those whose jobs were unchanged"[1]. If for no other reason than to prevent burnout, a job change within an organization, even a step backwards, is probably more beneficial to your career health than parking yourself in a position and waiting for the people in front of you to retire or be promoted out of your way. Also, regardless of the promotion possibilities that downshifting affords you, done at the right time in your career it can provide you with a respite from your current responsibilities, so that you can concentrate on other aspects of your life which may have become more important. These might include child rearing or more time with your spouse. These rewards are intrinsic and, like achievement, growth, satisfaction, quality of worklife, they are becoming more and more popular yardsticks for measuring career success. Downshifting is a strategy for obtaining these rewards; however, you as an individual must take a broader view of your career before you are likely to choose this path for achieving these goals.

Company Benefits of a Downshifting Strategy

Downshifting, and its advancement as a viable career strategy, offers the human resource manager a number of benefits too. It promotes broader employee development, as a tool both for developing new skills and abilities within employees at their current level, and for utilizing the skills of those employees who are not currently being used by the company, because of past promotions. Also by legitimizing downshifting you allow for more varied career paths. There is no longer one right way to become chairman of the board or manager of the XYZ department. It is therefore a means by which companies can avoid the "promotion trap". For most human resource managers it is already a foregone conclusion that it is no longer possible to give employees promotion after promotion until they retire. As a result, lateral moves have been used and are now generally accepted in the workplace. It is becoming ever more clear that:

> Tomorrow's career will be neither linear nor continuous, nor will it always be upward. Instead, one's life will take more of a zigzag course[3].

Although downward movement is still generally considered suspicious by management, many employees would like to request it for perfectly valid reasons[4]. Employees may be seeking a new challenge or a chance to broaden their experience. Or they may be looking to offload some responsibilities temporarily, so that they can attend to other areas of their lives. For the corporation such moves offer solutions to slower corporate growth, fewer layers of management and a more recent development, the 1990-91 recession.

Economic Factors Which Are Making Downshifting Necessary

For several decades now, much of the growth in many US industries has declined or disappeared entirely. As the economy has slowed, corporate growth has slowed with it. Then, in part owing to increased foreign competition, companies began "downsizing". Many companies began to seek a leaner, meaner appearance and continue to shrink in size. As a result of this restructuring, many jobs have disappeared, including a number "middle manager" positions. In 1985, as companies flattened their corporate hierarchies, an estimated 600,000 middle managers were squeezed out of jobs[5]. Those still in management have realized that less frequent promotions are now a career reality and that career growth will have to be met in other ways. As for corporate America, a recent study suggests that companies which downsize are paying a hidden cost in terms of lost employees, who feel that their prospects for the future are no longer bright enough to warrant their continued stay. The study reported that, when companies offered a voluntary retirement plan, on average 10-20 percent of the employees who chose to leave were actually employees whom the company wanted to stay[6]. Companies which are able to hold on to these employees and their skills (i.e. through downshifting strategies) stand to benefit in the long run.

Today's recession is also a cause for concern. Given this type of environment, it can be expected that companies will continue to downsize and the prospect for promotions at any level will remain poor. Even assuming this recession were to end tomorrow, the consensus of opinion is that organizational charts are never going to look the same again. The lean, mean look is here to stay, at least for the rest of the decade.

The result of all this is that promotions are going to be a less available method of rewarding, developing and utilizing people. This presents the human resource manager with the challenge of providing employees with the stimulation which they need to grow, while trying to stay within the constraints imposed on them by the company

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and, in a more general sense, by the economy. Downward moves are the most viable solution to this problem. These types of move are defined as those that an employee would tend to perceive as having a reduced level of responsibility and authority and are not to be confused with lateral moves, already a generally accepted strategy for career management. Downshifting is helpful to the company because it provides a whole new set of positions that can be used to stimulate and challenge employees whom the company wants to retain but to whom it cannot currently offer promotions. Fortunately, as discussed earlier, downshifting can also be beneficial to the employee. Therefore it is a win-win solution for the company and for those employees who are beginning to define their success in broader terms (i.e. family involvement, leisure time, community participation) and would welcome a company that has a legitimate and unstigmatized means by which they can take a downward step. As more and more "successful" people make these moves, the company makes it easier for itself to retain employees when it becomes necessary to curtail salary expenditures.

How to Implement a Positive Downshifting Strategy

Obviously benefits are to be gained both by the employee and by the company when a person downshifts. Therefore it would seem natural that most companies would want to add downshifting to their menu of options for the career development of their employees. Managing the implementation of a policy for downshifting most naturally falls to the human resource manager. Unfortunately, because downshifting is still not viewed as positively as lateral or upward moves, there is some concern on the part of many human resource managers as to the best way to implement such a program. The biggest concern is to present downshifting in a positive light, so that its benefits to the employee and the organization can clearly be seen. This is feasible and the following four suggestions should help.

First, the most important obstacle that a human resource manager needs to overcome is the "upward only" thinking that still permeates so many organizations today. The sooner the stigma attached to downward moves can be made to disappear from the corporate culture, the faster this tool for developing employees can be used. Therefore downward moves should be discussed as openly as possible. When the topic is avoided or discussed secretly, it only serves to perpetuate the thinking that any downward move signifies failure. Also, when a successful employee chooses to take a step down, it should be publicized internally via a company newsletter and that employee should be encouraged to discuss the move openly. To help the employee to do this, it is suggested that a counsellor role-play through a variety of discussions which are likely to come up in the workplace with him/her. The corporation should take every advantage to hold these people up as models of good team players who saw the advantages of such a move for themselves and for the company and seized upon them. This serves two purposes. First it legitimizes downward moves as a viable career strategy; hence it makes other employees who see the move more likely to consider it for themselves if it becomes required. Second, those professional employees who are happy in their present position, knowing that downward moves are an accepted and regularly used career development tool, will probably find it easier to accept as a status quo role. That is, rather than thinking that they have to keep striving for some type of a promotion or face being pigeon-holed, they will consider instead whether they really want a promotion at all; especially if it is understood that at some time in the future they may be required to take a step downward.

Another important aspect of managing downward moves is that the person being considered for such a move, to the greatest degree possible, must be given a choice in the matter. This is difficult to manage since the company has in a sense already made a choice. However, if the company has decided that a downward move for this person is appropriate for sound business reasons, then those reasons should be shared with that employee. The more the employee knows about the reasons for the decision and the more counseling he/she receives, the more likely he/she is to choose downshifting. It is particularly important that this should happen, because the bigger the role a person plays in the decision the more committed he/she will be to it. It is important to note that in order that there should be a real choice there must be real options. The employee certainly has an option—quitting. However, as a human resource manager seeking to develop and deploy your workforce, this probably is not the choice which you want him/her to make. Therefore you might consider other options such as training the person for a new position or offering him/her a lateral redeployment to somewhere else within the company.

Third, while overcoming the negative corporate culture as it relates to downshifting is probably the most difficult step in implementing downward moves, the most important determinant of whether a downward move is perceived as a positive experience by the employee relates to your ability to demonstrate the possibility of growth for that individual. If growth is taken to mean the development and utilization of new skills and abilities, then a new job, even at a lower level, should provide the employee with new challenges and demands with which he/she has never dealt before and which should thus stretch him/her in new directions. It is not necessary that the new job be more challenging as a whole than the old one; but it must contain some new and unique elements if the employee is to perceive it as a positive, growth-oriented move.

The fourth suggestion relates to the previous one. That is, while the company may feel genuinely that the new position represents a bona fide opportunity for the employee to grow, unless this is clearly communicated to the employee he/she may not see it that way. It is important to spell out clearly in what ways the new position will be challenging and demanding. If this is not done the

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employee is not likely to accept the challenge and much of the potential for growth will be lost. To ensure that this is communicated, it is suggested that the discussion about the new position and the challenges and demands it represents be separated from any discussion about accepting the job. By not rushing the employee into making a decision, you gain more time to discuss the other aspects of the job. This makes it more likely that the career growth possibilities will be discussed.

Another aspect of managing a downward move deals with what is probably the greatest source of anxiety for the employee who has just decided to downshift, specifically, what the future holds in store for him/her. The best advice here is that you be as honest and realistic as you possibly can. The employee may be wondering if the next move is not out of the door. If it is, say so. More likely, though, it is a developmental move and a clear path can be suggested. If, however, the future truly is murky, then it is best to say so and offer to provide more information for the individual as soon as it becomes available.

Assuming that the downward move really is for developmental reasons, then training is probably the most tangible evidence that a human resource manager can provide to show the company's commitment to the employee. It is also the one thing that is most likely to ensure that the move is received in a positive manner. Assuming that the skills needed by the employee for the new position have been assessed correctly, then the training will be useful and the result will be even greater employee loyalty.

Another suggestion along the same lines would be enrolling the person in a life- and career-planning workshop. This can provide the employee with a clearer understanding of how this move will help his/her career. It may also provide the added benefit of giving employees a chance to evaluate objectively what they want most from their career and life. In the end they are more likely to accept the idea of downshifting than when it was first suggested.

Along with suggestions for what a human resource manager should do are a couple of suggestions of what you should not do. As a general rule, it is suggested that you do not reduce the salary. Given the stress associated with downshifting, even with all the benefits it can provide, this stress is greatly aggravated by a pay cut. If it is at all possible, it is best to move the employee to the lower level position with the same salary and then freeze it or give smaller rises, so that over a period of a couple of years he/she will be at the same earning level as those other employees with the same job. If it is absolutely necessary to reduce salaries, then it is suggested that a new salary category be created before anyone is moved.

Finally, when choosing the position to offer to the person who is downshifting, it is important to remember that it should be a position as new and different as possible. Do not put the person back into the group he/she used to manage, especially if he/she will have to work for a person who was once his/her subordinate. In this, as with the previous suggestions, it is important that you be as sensitive as possible to employees' needs—to feel the position offers them growth and new challenges. If you are guided by this thinking, it is quite likely that the downshifted employee and the company will benefit.

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TDY 93/94 CASE STUDY: TEACHING THE POLITICS OF CAREER DEVELOPMENT

Source: "McDonald's: Political Acumen Boosts Trainees' Promotability," *Training Directors' Forum Newsletter*, June 1992, p. 6

Managers with similar qualifications are usually promoted—or not promoted—on the basis of an executive's personal tastes. That's the reality that McDonald's management trainees are being exposed to in career development classes held in more than 40 regions. "The training is designed only to make employees at the manager-trainee level on up aware of these political realities," says the author. McDonald's developed the program, cognizant that its culturally diverse workforce needs skill development in the realities of self-promotion. The training includes information on image, how to do an interview, how to communicate effectively, how to get management's attention quickly, and how to network and set up a support base. (AN246)

MAKING THE GRADES: THE ABC'S OF EDUCATIONAL REIMBURSEMENT

by Denise Georgemiller

In recent years, Section 127 of the Internal Revenue Code, which allows an employer to reimburse employees' tuition on a tax-free basis, has been like the phoenix. It has expired several times, only to rise from the ashes and be retroactively restored by Congress. The phoenix recently rose again—perhaps for the last time. On December 11, 1991, President Bush extended the provisions of Section 127 only to June 30, 1992. That means employers may have only four months left to get tax-free credit for employee tuition reimbursement. But, don't despair. Hope still exists for the provision's tax-free status. In fact, accompanying the June 30 deadline are Congressional hearings (starting last month) to determine whether to make Section 127 permanent. If history is any indication, this section will likely be made permanent or at least extended again.

Despite all the uncertainty about the tax status of educational reimbursement programs, the programs are popular with employers. This continued popularity indicates that employers consider these plans to be a helpful addition to their employee benefits package. But in many cases, the plans have been in place for years, and are no longer given much thought—except by the plan administrator who needs to decide how to handle their uncertain tax status.

If employers give more thought to why they are offering the plan and whether the plan design supports their purposes, they still will probably decide that they want to continue to offer the plan. However, they might also find that their programs can be designed to better accomplish specific goals.

Why Offer Educational Reimbursements?

Traditionally, employers offered educational reimbursement programs as a way for employees to "better" themselves—a show of support for employees who want to get further education. The employee received subsidized tuition and the employer reaped the benefit of a better educated, more loyal workforce. This is still an important reason to offer an educational reimbursement program.

However, there are a number of other reasons why employers offer educational reimbursement plans—reasons that will become more important as we move through the 1990s. And these new purposes can affect plan design. Alternative reasons for offering educational reimbursement plans include:

- **Recruiting.** Although some employers are forced to slow recruiting for economic reasons, many employers still have difficulty recruiting certain types of employees.
- **Retention.** Some employers with high turnover (e.g, fast food companies) are beginning to use tuition reimbursement as an incentive to reduce this turnover. For example, these employers may offer employees a certain dollar amount of

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tuition assistance for each six-month period an employee works.

- **Adjunct to Internal Training.** As employers increasingly confront the problems of a not adequately educated workforce, an educational reimbursement plan can be a worthwhile addition to an employer's internal training program.

Designing a Program

As employers rethink the reasons why they offer a tuition reimbursement program, they will find that many options allow them to tailor a program to best fit their purposes and budgets. When considering the design of a tuition reimbursement plan, here are some questions an employer should consider:

- Is there a particular group of employees that we want to encourage to take advantage of this program?
- What kinds of educational gaps among our workforce could be better filled by this type of program, rather than through an internal training program?
- Are there certain types of courses we want to encourage employees to take?
- For cost-containment purposes, do we want to encourage employees to go to public institutions, or do we want to give equal opportunity to employees who want to attend private schools?
- What kind of cost sharing methods by employees is appropriate?

Based on the answers to these questions, a company can choose from a number of different designs for educational reimbursement plans. Each design will encourage different types of employees, courses, and institutions. One of the most obvious design features is the type of monetary limit placed on the reimbursement.

Section 127 places an annual limit of $5,250 on the amount that an employer can reimburse for education on a nontaxable basis. Most employers, however, impose additional limits to this statutory limit. The most common types of limits are:

Percentage Reimbursed Limits. Employers impose this type of limit not only because it restricts the level of their costs, but also because it requires some cost sharing by the employee. Cost sharing helps ensure that employees do not take courses frivolously.

In a 1990 Hewitt Associates survey of educational reimbursement programs, 43 percent of these plans reimbursed less than 100 percent of tuition. Typically this is a fixed limit—such as 75 percent or 90 percent of all courses. Some companies, however, vary the percentage of tuition funds reimbursed.

For example, if an employer wants to encourage employees to take professional courses related to its business, these courses can be reimbursed at 100 percent. Other non-related courses, however, would only be reimbursed at 75 or 80 percent. Or, the employer may feel that an employee who puts the most effort into a course should get the highest reimbursement. The company, therefore, will reimburse employees according to the grades they receive—100 percent for an "A," 90 percent for a "B," and 80 percent for a "C." In any case, most employers require that employees receive at least a "C" to receive reimbursement.

Dollar Limits. A fixed dollar limit helps an employer control plan costs. A fixed dollar limit also sometimes encourages employees to attend less expensive schools.

In the Hewitt Associates survey, 42 percent of companies apply a dollar limit lower than the $5,250 exclusion limit. Typically, the same dollar limit applies to all employees, but it also may vary based on the type of course (*e.g.*, a higher limit for certain professional courses) or some other criteria. Limits set by companies typically are well below $5,250. For example, limits of $2,000 and $1,000 are very common. The average limit among the surveyed companies that set a limit below $5,250 is $1,600.

Another type of dollar limit imposed by a few employers is a dollar limit per course. This dollar limit is sometimes pegged to the tuition rate at a state university.

Section 127 Rules for Educational Reimbursement Plans

- The plan must be a separate written provision of the employer, offering educational assistance for the exclusive benefit of employees.
- The plan may reimburse expenses incurred by, or on behalf of, an employee, including (but not limited to) tuition, fees, books, supplies, and equipment.
- The reimbursement may not include payment of benefits for any course or education involving sports, games, or hobbies.
- The maximum annual nontaxable benefit per individual is $5,250.
- The plan must be offered to a nondiscriminatory classification of employees.
- No more than 5 percent of the benefits under the plan may be paid to 5-percent owners.
- The plan must not provide the choice between cash and educational reimbursement benefits (*i.e.*, it cannot be part of a flexible benefit plan).
- The employer must offer reasonable notification of the availability and terms of the program to eligible employees.

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Course Limit. Applying a limit on the number of courses taken per term ensures that the employer is not subsidizing an employee attending school full-time. A limit on courses also does not discriminate against employees who want to attend more expensive private schools.

Course limits are applied by 23 percent of employers who participated in the Hewitt Associates survey. The most common course limit in these companies is two courses per term (67 percent).

Multiple Limits. Of the employers in the Hewitt Associates survey that set a limit on their plan reimbursements (other than the $5,250 limit), 27 percent set multiple limits. The most common multiple limit is both a limit on the percentage of tuition reimbursed and a lower dollar limit.

Other Design Elements

Other questions employers should consider when designing an educational reimbursement plan include:

- Do we want to reimburse all courses allowed under Section 127 (*i.e.*, any courses except those involving sports, games, or hobbies)? Or, do we want to limit the types of courses reimbursed (*e.g.*, those relating directly to the employee's job)?
- Do we also want to reimburse for other education-related expenses? If so, which ones? (Section 127 allows an employer to reimburse not only for tuition, but also for other expenses, such as fees, books, supplies, and equipment. The employer, however, may not reimburse on a nontaxable basis for tools or supplies that may be retained by the employee after completion of the course, or for meals, lodging, or transportation.)
- Do we want to pay an employee's tuition up front, or do we want to wait for the successful completion of the course? (Most employers wait until after the course is completed. Some, however, reimburse up-front because an employee may not have enough out-of-pocket funds to pay his tuition.)

Whom to Include

Almost all of the employers participating in the Hewitt Associates survey (99 percent) offer their educational reimbursement plans to salaried full time employees; 76 percent offer the plan to hourly full-time employees. A much smaller number (23 percent) offer the educational reimbursement plan to part-time employees.

Most employers limit their plans to full-time employees for many reasons. For example, many employers do not want to subsidize an employee's full-time education. However, as mentioned earlier in the example of fast food restaurants, some employers are beginning to look at special programs to encourage highly motivated part-time employees to stay with the company.

Although employers typically offer their educational reimbursement plans to a broad group of employees, only a small percentage of this group actually uses a plan. In the Hewitt Associates survey, an average of only 10 percent of eligible employees participate in their company's educational reimbursement plans. These participants,however, are not typically top executives or middle-level managers. Almost all participants (96 percent) have annual salaries under $50,000, and 60 percent earn less than $30,000. It therefore seems that employers are using these plans to help employees "better" themselves, and not to offer extra perks to upper-management employees.

If it hasn't done so already, an employer may want to take another look at its plan's utilization patterns to ensure that the plan is serving the employees it is intended to serve. Some employers may feel comfortable with a plan's overall utilization rate, while others may find that they are not reaching a target group of employees. Special communication to these employees, or a change in plan design to make the plan more attractive to these employees (and perhaps less attractive to others), could help an employer better meet its goals.

An Alternate Plan

In addition to sponsoring educational reimbursements plans under Section 127, employers also have the option of reimbursing educational expenses under Section 162 of the Internal Revenue Code as an ordinary and necessary business expense of the employer. These reimbursements are not subject to the $5,250 nontaxable limit and/or the nondiscrimination rules. In addition, the ability to reimburse courses on a nontaxable basis under Section 162 has remained stable, even when the status of Section 127 was in flux.

Employers however, are much more limited in the types of courses they may reimburse under Section 162. To qualify as a Section 162 reimbursement, the education must do one of the following:

- Maintain or improve the skills required by the individual in his or her current job.
- Meet the express requirements of the employer (or applicable law or regulations) that are imposed as a condition of retaining the employee's position.

In addition, regulations deny a deduction for an educational expense under Section 162 if either of the following is true:

- The education allows the individual to meet the minimum educational requirements for his or her position.
- It is part of a program of study that will lead to qualifying the employee for a new trade or business.

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Many companies frequently have used this last requirement to disqualify law school and CPA courses. Courses leading to an MBA may or may not be deductible depending on the employee's circumstances.

The goal of most educational reimbursement programs is to help employees better themselves. Section 162, however, imposes requirements that are usually too narrow to meet the goals of most employers' plans. As a result, in the Hewitt Associates survey, only 21 percent of companies limit their reimbursements to courses meeting the Section 162 "job-related" criteria.

Conclusion

Educational reimbursement is an employee benefit that can be valuable for both employers and employees. As with health and retirement plans, employers have a wide variety of design options for their educational reimbursement plans. With some thought and planning, educational reimbursement programs can strengthen an employer's ability to recruit, retain, and train employees.

TDY 93/94 IN BRIEF

CAREER COUNSELING TEXT

Source: *Counseling for Career Development: Theories, Resources, and Practice*, by Carl McDaniels and Norman C. Gysbers, Jossey-Bass Inc., 1992, 463 pages, $36.95

Here's an up-to-date guidebook for career development counselors that could serve as a textbook for the field. The authors have designed the book to serve, not only as an overview of the history and theory of career counseling, but also as a survey of resources and of counseling practices. The volume is divided into 4 parts:

1. **The Important Role of Career Theory in Counseling.** Chapter one covers the history of the career development movement and highlights the concept of life planning rather that just a work-focus for planning. Then the authors turn to the theoretical base of career development, drawing "implications for practice" for each theory treated: (a) trait-and-factory theory, (b) Holland's theory of vocational personalities and work environments, (c) socioeconomic systems theory, (d) Super's life-span, life-space approach, (e) Schlossberg's adult career development transitions model, (f) decision-making theory, and (g) cognitive theory.
2. **Building the Foundations for Career Development.** Here, the authors survey the worlds of work, education/training, leisure, and family, and the importance of integrating these with one's career planning.
3. **Resources for Career Development.** Now the authors move from theory to practice. They highlight each of the major sources of information, such as the *Dictionary of Occupational Titles*, giving scope of coverage, type of information presented, and places where the source is available. Then they examine various computer-based career guidance and information systems, and explain how to develop a file of information on local employers' needs.
4. **Using Career Resources and Information.** The final portion of the book deals with administration of career development centers, techniques of individual counseling, and examples of workshop formats for career development.

The book concludes with National Career Development Association guidelines for evaluating career development literature and software. It should also be noted that the book is carefully indexed for both names and subjects. (AN247)

INCLUDING THE SPOUSE IN CAREER COUNSELING

Source: "Career Counseling with Couples," by Benny A. Benjamin, *Journal of Counseling & Development*, March-April 1992, pp. 544-549

Inadequate attention has been given to incorporating family members in career counseling with adult clients, says the author. He presents a paradigm which takes into account the couple dynamics that are active in the adult career choice process. Then he examines the elements of a typical couple counseling plan: (1) an extensive couple intake interview to formulate the career issues to be confronted by either or both partners, (2) ability, projective, and vocational preference testing (using *Holland's Self-Directed Search* and the *Ramak* interest inventory), (3) one or 2 individual feedback sessions, and (4) two to 3 joint evaluation and summary sessions with the couple. A case study is presented of an Israeli couple whose career plans entailed moving from a kibbutz to the city. The couple is followed through the 4 steps of the paradigm, with graphs of their *Ramak* inventories, and samples of their interview responses which serve to illustrate the need for this counseling process. The author believes the model is capable of helping not only young couples, but also dual-career couples, mid-career couples, and early retirement couples, as well. Couples counseling helps facilitate the career choice process into the long term, concludes the author, and it may even have implications for the couple's personal life. (AN248)

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CAREER PLATEAUING

Source: "Career Plateauing: Implications for Career Development Specialists," by Andrew Weiner, *Journal of Career Development*, Fall 1992, pp. 37-48

Literature related to career plateauing can be grouped into 3 sub-areas, says the author: (a) types of plateauing (structural and content plateauing), (b) effects of plateauing on selected work-related behaviors, and (c) problems associated with conducting research on organizational plateauing. After reviewing the existing literature, the author discusses the implications of plateauing for career counseling. He classifies responses to plateauing into (1) proactive (prevention-oriented) vs. reactive (remediation-oriented), and (2) organizational responses vs. managerial responses. He presents a plateauing response matrix and discusses various strategies for dealing with the increasing problem of plateauing among baby boomers. Some of the approaches career counselors and others can take include:

- Teaching the value of an integrated lifestyle throughout secondary schools and college,
- Developing career planning systems,
- Enhancing retirement programs,
- Using job-loading and cross-training approaches,
- Providing discharge or outplacement counseling, and
- Coordinating career development seminars.

(AN249)

STUDENT INTERNSHIPS

Source: "Internships Add Value to College Recruitment," by Mary E. Scott, *Personnel Journal*, April 1992, pp. 59-63

For recruitment purposes, properly-managed student intern programs offer a generous return on investment, says the author. She acknowledges the reluctance of many college-relations managers to bring interns to the worksite, but she underscores the value that many companies have found in these programs. She believes that with the upcoming "baby bust" generation, the large pool of prospective employees will be dwindling to the extent that no company can feel complacent about its recruitment efforts. Former interns, now actively employed in several large companies, discuss the impact their internships had on them. The author concludes with outlines of what companies and schools can do to make the intern experience a rewarding one: (1) prepare managers for the job of coaching and developing the interns, (2) focus assignments on the "real work" of the organization and not on special projects, (3) expose interns to the whole organization, not just one limited area, (4) match students' needs and expectations to the program design and facilities, (5) include plenty of socializing opportunities, and (6) help student interns find affordable, safe housing. (AN250)

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D. CUSTOMER-ORIENTED TRAINING

D-1. SALES TRAINING

TDY 93/94

CASE STUDY: SALES TRAINING FOR SATURN RETAILERS

Source: "Sales Training and the Saturn Difference," by Dorothy Cottrell, *et al.*, *Training & Development*, December 1992, pp. 38-43

When Saturn attempted a fresh approach to building and selling an American-made car, it selected Maritz Communications Co. as its partner to develop all its retail and wholesale operations training. The authors describe how the new Saturn philosophy is exmplified by its Six Steps to Customer Enthusiasm: listen to your customer, create an environment of mutual trust, exceed customer expectations, creat a win-win culture, follow-up with customers to make sure their expectations were met, and continually improve customer's perceptions of the quality of products and services. The result—consultive selling—has been packaged into self-study modules with video segments of focus groups in which real customers discuss how they want to be treated by car salesmen and what they don't like about buying cars. In addition to the self-study modules, seminars are conducted at Saturn's training facility in Spring Hill, TN. The self-study sales modules take an estimated 11 hours to complete, and they have been designed to be supervised and monitored by managers. They also contain learning maps. The system of training evaluation consists of 3 phases: training-quality surveys, mastery tests, and 60-day evaluations. Finally, the authors describe how the training program has been implemented: through pilot tests, through a second round of validation tests, and through centralized training at Spring Hill for newly-hired employees. A joint Saturn/Maritz team makes up a group called the Retail Training Team, which is responsible for continuous improvement of the sales training programs. (AN251)

TDY 93/94

CASE STUDY: SALES TRAINING AT HART SCHAFFNER & MARX

Source: "Retail U," by Jeanne C. Meister, *TRAINING Magazine*, March 1992, pp. 55-58

Since 1990, the men's clothier firm, Hart Schaffner & Marx, has run a university (HSMU) to teach managers and salespeople the techniques of successful salesmanship. According to the author, HSMU originated with seminars designed to: (1) build more control with the customer at the point of sale, (2) strengthen partnerships with the stores that purchase HSM suits, and (3) create a marketing mechanism that highlights the quality of HSM products. Funding for the university was provided by organizations for which HSM itself was a major customer, such as the Wool Bureau, Burlington Industries, and Crown Textiles. The author describes the curriculum, which covers: (1) business planning, (2) the product itself, (3) sales skills, (3) fitting skills, (4) image, (5) service skills, (6) store management, and (7) clientele building. Role play is used to reinforce sales, service and communications skills. The author explains the psychological import of labeling their training program a "university," and she notes that the program recently gained academic status when Eastern Illinois University agreed to offer college credits to participants in the program. Although the program is still too new for a fair evaluation, HSM retailers have seen a marked reduction in suit returns and increased sales productivity and customer loyalty. (AN252)

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TDY 93/94 IN BRIEF

OVERCOMING CALL RELUCTANCE IN SALESPEOPLE

Source: "The Fear Factor: Why Traditional Sales Training Doesn't Always Work," by Dennis Fox, *Sales & Marketing Management*, February 1992, pp. 60-64

"Call reluctance" is the fear of self-promotion that prevents sales people from initiating contacts in sufficient numbers to reach their performance objectives. The author explains that training programs that concentrate solely on skills without taking this fear into account can cost salespeople and their companies up to 5 times the salesperson's earning potential—no matter how effective the skills training itself may be. The author examines some of the word-based and mechanical techniques for combatting call reluctance—including thought realignment, threat desensitization, and negative image projection. Successful examples of salespeople who have overcome their fears are presented, and the author concludes with a discussion of 4 elements he considers necessary in training people to combat these fears: (1) an assessment tool to detect the presence or potential presence of call reluctance and a corrective program to get rid of it, (2) a comprehensive client-centered model for learning basic selling skills, (3) a tracking system for salespeople and managers to measure their post-training success, and (4) a follow-up program for managers and trainers to monitor progress and provide additional advice and support when needed. (AN253)

64 SALES TRAINING EXERCISES

Source: *High-Performance Sales Training: 64 Interactive Projects*, by Lee Boyan and Rosalind Enright, AMACOM, 1992, 414 pages, $75

"As a sales manager," say the authors, "you are involved in coaching and encouraging people whose performance is disappointing. These sessions provide the nuts and bolts of improving sales." This book consists of 64 interactive sessions, from 15 to 35 minutes each, which are designed to be used in weekly sales meetings, as well as for one-on-one coaching with salespeople. Each lesson includes a cover sheet which provides an overview of the session, including: objective, type of exercise, description, time required, group size, prerequisites (if any), ways to use the exercise, session leader's advance preparation, and times for each activity. Each lesson also includes notes to the session leader, opening remarks, and closing remarks, as well as written material which may be handed out to participants. While most of the sessions use worksheets, other approaches include checklists, case studies, role plays, creating something new, milling around, visualization, sharing ideas, and brainstorming. Lessons are divided into 10 sections: (1) personal effectiveness, (2) self-confidence, (3) prospecting, (4) selling benefits, (5) the approach, (6) getting through to decision-makers, (7) probing for needs, (8) closing the sale, (9) resistance, and (10) customer service. (AN254)

D-2. QUALITY TRAINING

TRAINING WITH QUALITY

by Ted Cocheu

As the challenge of improving product quality and customer service looms ever larger for all organizations, so does the challenge to the training and development profession—to give people the knowledge and skills they need, when they need them, to improve quality.

Tom Peters insists that "workforce training must become a corporate (and indeed a national) obsession.... It is on this variable that the outcome of the overall competitive struggle may most strongly depend."

Anyone who doesn't believe Peters should listen closely to the executives of some of the companies that have won the Malcolm Baldrige National Quality Award.

"Over three or four years, we spent about $125 million on quality training," says David Kearns, former CEO of Xerox. "The top 25 people in the company pounded out the initial decision to go after quality...and training was the absolute underpinning of it." Motorola's Bill Wiggenhorn reflects, "In 1983, we thought three days of

Copyright © 1992 by the American Society for Training and Development, Inc. From *Training & Development*, May 1992, pp. 29-32. Reprinted by permission. All rights reserved. Ted Cocheu, director of development and training for Conner Peripherals, San Jose, CA.

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training on quality would be enough. Today we have 28 days of material."

Perhaps Japanese quality expert Kaoru Ishikawa summed it up best when he said that quality control "begins with education and ends with education."

But just *knowing* that training is important isn't enough. Training must also be effective. Multitudes of people across the country have attended seminars on quality-related subjects, but there's a growing concern that companies may not be getting all the bang they had bargained for from their training buck.

A recent *New York Times* article quoted Hay Management Consulting's Bruce N. Pfau as saying that "only 25 percent of employees say quality has improved in their companies over the last two years."

The experience of VLSI Technology, of San Jose, California, is a case in point. In 1986, the company began a quality program, with training for quality circles. In 1987, the training focus shifted to communication skills. In 1988, the training priority was statistics.

In 1989, a key VLSI manager finally came to a realization: "We didn't have the right infrastructure to support the type of change we started and wanted to make."

Understanding this all-too-common experience requires us to look at the limitations of the three most common types of quality training:

- Quality awareness training
- Employee involvement training
- Statistical process control, or SPC, training.

A typical quality awareness training program is conducted as a one- to three-day seminar. During the training, consultants and senior managers extol the virtues of quality, emphasize the reasons for its importance, and implore everyone to make it a top priority.

Employee involvement training, most popularly in the form of "quality circles," gives people skills in meeting management, problem-solving, data analysis, and group decision-making.

The SPC approach teaches the use of various charting techniques to eliminate sources of variation and bring work processes into a state of statistical control.

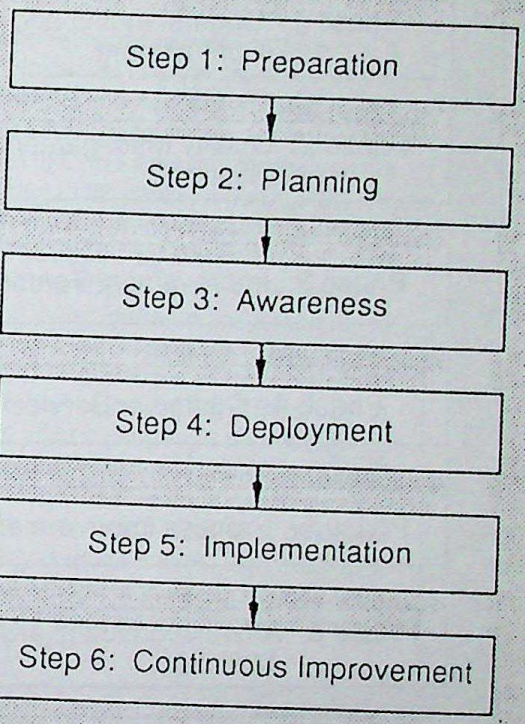
All three types of training are essential to the overall quality education process. The problem is that they are often seen as solutions in and of themselves, rather than as parts of an overall training system to support an organization's quality improvement strategy.

"The key thing about training is that it should integrate," says Kearns. "The strategy of the company, the direction of the company, the vision of the company, and the skills and behavior that people need to get the job done should all be combined and integrated into the training. This is the key thrust I'd like to see."

That simple truth—strategy must precede training—is often overlooked in the frenzy to make up for lost time in the "life-or-death" quality race.

Figure 1

Six-Step Improvement Strategy



Quality strategy provides the direction and structure people need for focusing their collective efforts toward improving customer satisfaction. It's the road map people can follow. It defines the choices the company has made about the improvement process. Training can effectively communicate that strategy to people throughout the organization, help overcome their resistance to change, and provide the knowledge and skills they will need in order to proceed.

Organizations can use the six-step improvement strategy shown in Figure 1 as a guide to the improvement effort. To be effective, such a strategy must be supported by six different phases of training, listed in Figure 2.

A Six-Step Improvement Strategy

"Only transformation of the American style of management...can halt the decline and give American industry a chance to lead the world again," warns the quality guru W. Edwards Deming. "The required transformation of the Western style of management requires that managers be leaders."

So the improvement process must begin with top management itself.

The first step in the improvement strategy is preparation. It requires top managers to do their homework before getting the rest of the organization involved. They

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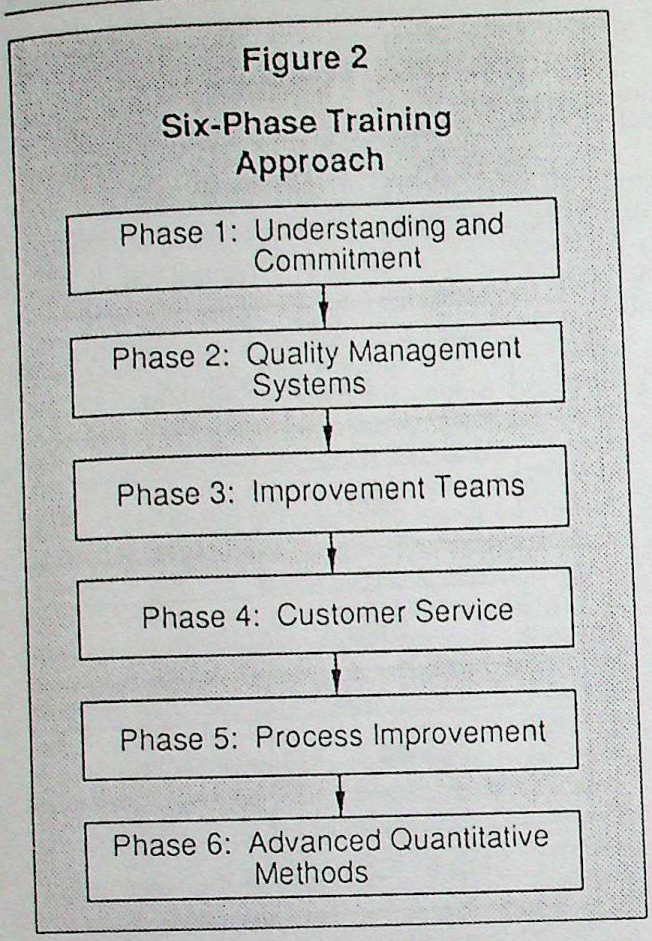

must understand quality as a means of satisfying customers and gaining competitive advantage; they must organize themselves to pursue quality. Preparation involves four related activities:

- Conducting a marketplace assessment of customers and competitors
- Conducting Phase 1 training for executives (training in understanding and commitment, see Figure 2)
- Organizing a corporate improvement steering council
- Developing a vision statement.

The second step of the strategy involves planning for improvement. Top management must determine what has to be done to keep the company competitive, and how to proceed. The planning step, which top managers should complete before they get the rest of the organization involved, includes three related activities:

- Developing broad goals for improving quality and service
- Selecting a quality management system
- Developing an improvement plan.

The third step addresses awareness of quality principles, approaches, and processes. At this stage, everything that executives have done in the first two steps gets communicated to the organization. For the first time, everyone becomes intimately familiar with the philosophy, direction, and approach the executive team has developed.

This is management's opportunity to capture the hearts and minds of the people—to have them embrace the improvement vision as their own and really believe that pursuing total quality is in their best interests. Embarking on this step means that management is committed to a strategy of continuous improvement and cannot turn back. Awareness has three related activities:

- Communicating the vision, goals, and strategy to all employees and suppliers
- Conducting Phase 1 training (understanding and commitment) for all employees
- Conducting Phase 2 training (quality management systems) for all employees.

When Paul Allaire, president of Xerox, was asked how the company had reversed its slide in the marketplace, he responded, "There is no magic formula. We are doing it by involving all of our people—union and nonunion alike—in problem-solving and quality improvement."

Step 4 is the deployment step. It's in this step that a company develops a team infrastructure and sense of individual responsibility. Step 4 mobilizes people and turns a paper strategy into a reality. It also addresses the difficult question of how to deploy the improvement process throughout the organization and in the company's supplier base.

Deployment involves five related activities:

- Organizing improvement teams at all levels
- Conducting Phase 3 training (improvement teams)
- Holding individuals responsible for improvement
- Conducting Phase 4 training (customer service)
- Driving improvement into the supplier base.

The fifth step of the improvement strategy is implementation. This is the point at which process and product improvements actually take place. Implementation is possible because the four preceding steps have prepared the firm to define, control, and improve work processes.

Implementation involves three related activities:

- Conducting Phase 5 training (process improvement) for team members
- Improving work processes
- Conducting Phase 6 training (advanced quantitative methods), as required.

The sixth and final step in the strategy is continuous improvement. The major lesson to learn when pursuing quality is that improvement is an ongoing, never-ending process.

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TDY 93/94

CASE STUDY: CASCADED QUALITY TRAINING AT HUGHES AIRCRAFT

Source: "Cascaded Training at Hughes Aircraft Helps Ensure Continuous Measurable Improvement," by Judy Rice, *National Productivity Review*, Winter 1992-1993, pp. 111-116

In the 1980s, Hughes Aircraft Company introduced continuous measurable improvement (CMI) as a cornerstone of Hughes' total quality thrust. However, implementation was not consistent, the author explains. Finally, the CMI Leadership Team conceived of the idea of a CMI Cascaded Training Program which would make managers responsible for achieving improvements and would teach the philosophy and principles of CMI leadership throughout the corporation. Each manager would, in turn, provide the training to the people reporting directly to him or her. In 1991, a team of line and training people was formed to prepare a training program with the help of a consultant. Course content was drawn from data gathered within Hughes itself. Moreover, they developed an extensive questionnaire and conducted a search to identify managers who met the CMI target requirements. In addition, participating managers received aggregate scores on how their subordinates ranked them on CMI behaviors. "During the training," the author says, "managers were taught why CMI is important to the survival of Hughes, how to apply the CMI principles to their daily work, how to focus CMI efforts, how to encourage the use of CMI tools and methods in incremental and breakthrough improvements, and how to communicate, establish, and maintain a work environment of trust and teamwork." The resulting 2-1/2-day program has been cascaded down through the Hughes line management structure. "By functioning first as a student and then as the instructor," the author observes, "managers become aware of how each level of leadership views the problems, the challenges, and the possibilities for future improvement efforts." To sustain the momentum generated by the Cascaded Training effort, each group of managers was asked to take on a project geared toward improving a process key to their own organization. (AN255)

Bill Almon, president of Conner Peripherals, likens the U.S. approach to improvement and international competition to Americans' fascination with football.

"We want to think about global competition as if it's the Super Bowl," he says. "We want to play hard for the season, win the big game, and sit around during the off-season and gloat about how great we are. But the competitors we face in business today don't want to wait until next year for a rematch—they want to play again next week and every week until they finally win. It's tough for us to accept that we don't control the rules of the game anymore. We've got to be ready to battle formidable competitors everyday, forever, and without a break."

A sense of urgency must be permanently instilled in everyone in the organization. Step 6 in the organization's strategy ensures that improvement is a closed-loop, never-ending process. It involves three activities:

- Assessing and rewarding progress
- Re-setting improvement goals
- Conducting ongoing training.

The six training phases, listed in Figure 2, support the improvement strategy described above and are important parts of implementing it. All of the training should be highly interactive, giving participants frequent opportunities to apply the concepts and skills to job-related situations. What follows is a rundown of the six training phases.

Phase I—Understanding and Commitment

Phase 1 training covers understanding and commitment. It provides everyone in the organization with an overview of the firm's six-step improvement strategy and of the training to be covered in the other five phases.

Phase 1 training has several important objectives. First, it gives people throughout the organization an understanding of what quality is, why it's important, and how the company intends to achieve it. It establishes the roles and responsibilities of executives, managers, and individual contributors. It establishes credibility for the improvement effort and helps gain people's commitment to pursuing it.

Phase 1 training has to deliver a consistent message to everyone, while also addressing the divergent needs of people at different levels of the organization. Executives, managers, and individual contributors play very different roles in the improvement process. So the content, sequence, and delivery of the training must be customized for each group, to prepare people for their particular responsibilities.

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TDY 93/94 CASE STUDY: TRAINING FOR CONTINUOUS IMPROVEMENT AT VLSI TECHNOLOGY

Source: "It's in the System," by Sue Longman-Czeropski, *Training & Development*, October 1992, pp. 81-86

VLSI Technology, a manufacturer of integrated circuits, wanted to upgrade its San Jose, CA, plant to equal its state-of-the-art facility in San Antonio, TX. But when statistical process control (SPC) and design of experiments (DOE) began to be perceived as management programs instead of everyday tools, the company realized that it needed to change its whole philosophy to be one of continuous improvement. First, employees were organized into work groups. Then, a steering committee developed a training matrix for target audiences and the types of training needed for each audience. The committee identified the following areas for training in continuous improvement: basic math, SPC and DOE, problem solving with statistical tools, customer relationships, team building, communications, facilitation, organizational philosophy, and time and meeting management. The author describes a continuous-improvement pilot workshop which was then opened to each of the plant's 350 employees. A math review found 35% of the plant's workers failed tests in basic addition and subtraction. Basic math instruction took place during all shifts; then workers learned about statistical reasoning, variability, and distribution. "The training that most affected the continuous improvement effort was facilitator training," says the author. Here, the objective was to send people back into the organization armed with team-leadership skills, and the training for this purpose involved video recording of team sessions. Upon playback, participants were able to identify themselves in various stages of team development. Participants also studied adult learning principles so they could teach others the steps involved in systematic problem-solving. Now, continuous improvement project teams select their own projects, and use a 12-step problem-solving approach. After describing a typical project involving cost containment of test wafers, the author notes that annual savings totaled $1.1 million. (AN256)

For example, the first challenge for executives is completing the preparation and planning steps of the improvement strategy. For this group of people, Phase 1 training is not a single seminar but a series of "learning by doing" experiences.

In Phase 1 training, executives conduct a marketplace assessment, organize themselves as an improvement steering council, develop an improvement philosophy, create a quality vision, define corporate improvement goals, select a quality management system, apply the six-step improvement strategy, and develop a top-level implementation plan.

After completing these steps, executives should turn their attention to communicating all this to everyone else, pulling the improvement process through the organization, and creating an environment conducive to quality. So executive training in the first phase must familiarize top managers with what's required to implement the six steps of the improvement strategy.

The topics for executive training, which also summarize executives' leadership responsibilities, include the following:

- Defining quality and its strategic importance to the business
- Articulating a quality philosophy
- Developing a shared vision and an improvement strategy
- Developing an improvement team infrastructure
- Developing supplier partnerships
- Making improvement continuous.

The next people whose training needs must be addressed are managers. Their primary functions in the process are personalizing the company's quality message and tailoring the general approach to their units' specific requirements.

Like executives, managers must organize their own quality councils, develop improvement plans, and serve as role models to others—consistently thinking and acting in terms of quality and the relentless pursuit of improvement.

The most effective format for managerial training is typically a three- to five-day off-site seminar, preferably one that requires managers to stay overnight. It should allow managers time to get away from the constant crises of work and provide an opportunity to reflect on the "big picture." The subjects for Phase 1 training for managers are essentially the same as for executives, but with a different emphasis.

Executives are directly involved in the development of the company's overall improvement vision, philoso-

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phy, strategy, quality management system, and goals. Most managers are not. This important role difference significantly influences the Phase 1 training for each group. For managers, it is a process not so much of strategic exploration but of understanding top management's direction and learning how to bring that direction into reality throughout the organization.

Individual contributors must learn to apply improvement thinking and techniques to their jobs. All employees are responsible for seeking new and better ways of doing things. They are expected to bring to management's attention any cases in which they believe quality may be compromised. They should identify opportunities for improvement in processes, products, and services, and should seek help when they see that changes are needed in areas they cannot independently influence.

Employees are expected to participate as effective members of improvement teams and continuously to seek to increase their own knowledge and skills in a process of life-long learning.

Phase 1 training for individual contributors should be organized to minimize the disruption that classroom time can have on work schedules and productivity. In-house trainers should deliver the training on site. The content is similar to the content of training for managers but can be compressed into six modules of two to four hours each:

- What quality is and why it's important
- The company's quality philosophy, vision, and goals
- The company's quality strategy, system, and training
- Teamwork as the foundation for improvement
- Improving processes to make quality happen
- How to start making improvement continuous.

Phase 2—Quality Management Systems

Phase 2 training covers quality management systems. The objective of this phase is to provide people with the knowledge they need to implement the quality management system, or QMS, that the organization has selected.

Various systems are available:

- Malcolm Baldrige National Quality Award criteria ISO 9000
- Deming Prize
- NASA Award for Productivity and Quality
- President's Award for Quality and Productivity
- Composite systems.

I'll use ISO 9000 as an example here, to demonstrate how to train to support a particular system. See the sidebar, "The ISO 9000 Series," for more details on what ISO 9000 involves.

As in Phase 1, different groups in the organization have different training needs.

General training topics in this phase cover knowledge that is necessary for everyone in the organization. This kind of training provides important background information on what a quality management system is and why it's important. For example, it would cover the benefits of ISO 9000 registration, as well as the implementation process, responsibilities and teamwork, and third party and self-assessment audits. Other topics include alignment of QMS documentation and system maintenance.

As in Phase 1, training needs vary among people at different levels in the organization.

Managers, for example, receive Phase 2 training in the requirements of the global marketplace, in ISO 9000 as the foundation for a total quality management approach, in registration process requirements, in leadership, and in interorganizational cooperation.

For project teams, Phase 2 training topics include an introduction to quality system auditing, in-depth understanding of ISO requirements, quality terminology, auditing principles and techniques, alignment of quality system documentation, third-party and self-assessment audits, and system maintenance for ongoing third-party surveillance.

Phase 3—Improvement Teams

Training in Phase 3 focuses on improvement teams. After gaining a good understanding of management's philosophy, commitment, and approach to quality, people throughout the organization will need the knowledge and skills required to participate effectively as members of improvement teams. Again, the topics for managers, team leaders, and team members vary according to their roles in the improvement process.

Management training topics in Phase 3:

- Developing a participative environment at work
- Learning why employee involvement is necessary for improvement
- Leading versus managing
- Trusting and delegating
- Sponsoring and coaching teams
- Monitoring team performance and maintaining control
- Recognizing and rewarding team accomplishments.

Team members' Phase 3 training should cover various aspects of team participation and their new roles as team members. Here are some examples of training topics:

- Self-empowerment (believing they can and must make a difference)
- Meeting management, including group process and roles
- Team organization, including different types of teams and techniques for setting up teams
- Problem-solving and decision-making techniques
- Seven quality tools (brainstorming, cause and effect diagrams, check sheets, histograms, Pareto charts, other charts, and scattergrams).

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The ISO 9000 Series

The most widely accepted quality standard internationally is the ISO 9000 series.

ISO 9000 was developed in 1987 by the International Standards Organization, of Geneva, Switzerland. It was originally adopted by British companies (as British Standard 5750) as a tool to establish whether suppliers' quality systems are adequate to ensure their abilities to meet their customers' product and service requirements. It is also known in the United States as the ANSI/ASQC Q90 series.

In order to be certified as an ISO 9000 supplier, a company must pass an audit against the appropriate ISO 9000 standard by a registered auditing organization. Starting this year, ISO 9000 certification is a requirement for companies that do business in Europe. Consequently, many large U.S. companies are pursuing certification and are requiring their suppliers to do the same.

ISO 9000 is not a standard intended for end-user service organizations to comply with, but they can use it to ensure the adequacy of their suppliers' quality systems.

The five parts of the ISO 9000 series consist of three standards or models (9001, 9002, 9003) and two guides (9000 and 9004). The standard that a company selects depends on the "functional or organizational capacity" required of a supplier by the purchaser. It is helpful for people to understand that there are different standards for different applications, and the reasons behind an organization's choice to pursue a particular one.

ISO 9000 is a guide to the selection and the use of total quality management and quality assurance standards.

ISO 9001 is a standard for quality assurance in design and development, production, installation, and servicing of products. This is clearly the most comprehensive standard.

ISO 9002 and 9003 are subsets to ensure the quality of more limited functions or capacities. All three are used for external quality assurance purposes in contractual situations. ISO 9002 is a standard for quality assurance in production and installation activities. ISO 9003 is a standard, with very limited application, for quality assurance in the final inspection and test activities.

ISO 9004 is a general guide to quality mangement and quality system elements for internal management purposes.

Phase 3 training for team leaders focuses on forming and leading teams. Team leaders should receive training in the same topics as other team participants. But they should also receive training in several other aspects of improvement teams, including the following:

- The role of a team leader
- The principles of effective team leadership
- Project planning techniques
- Attributes of effective teams gaining support and commitment
- Facilitation and conflict resolution techniques
- Training team members
- Communicating effectively with management.

Phase 4—Customer Service

People who work in customer contact positions, such as salespeople and service representatives, need specific training in how to work effectively with customers. Each person who interacts with a customer is a representative of the entire organization. Each interaction is an opportunity to demonstrate the company's dedication to improvement and customer satisfaction.

The empowerment training from Phase 3 is a prerequisite to training in customer service skills. People must believe they have the responsibility and ability to take the necessary actions to satisfy customers' needs. Phase 4 training focuses on the interpersonal skills needed to interact effectively with customers in a variety of situations. These skills include the following:

- Listening actively and demonstrating courtesy, respect, and concern
- Soliciting customers' expectations
- Responding nondefensively and empathetically
- Helping customers maintain their self-esteem
- Negotiating winning solutions
- Taking the initiative to satisfy customers
- Following up to ensure customer satisfaction.

Phase 5—Process Control and Improvement

Improvement teams may be functioning well and may be able to collect, display, and analyze data. But they still need two additional tools to improve the work processes that affect the quality of a company's products and services. Guided by corporate and division improvement objectives, teams can proceed with the difficult task of figuring out how to improve both manufacturing and business processes continuously.

The two tools team members still need are statistical process control and process improvement. Process control involves identifying and eliminating special causes of variation and bringing processes into a state of statistical control. This is most frequently accomplished through the use of the now-familiar control chart. Process improvement involves identifying and minimizing common causes of variation as well as eliminating waste and reducing cycle time.

SPC has been most often applied in manufacturing environments; process improvement can be used anywhere in the organization.

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Integrating Training With Quality: A Reading List

- Paul A. Allaire and Norman E. Rickard, "Quality and Participation at Xerox." *Journal for Quality and Participation*, Volume 12.1.
- W. Edwards Deming, *Out of Crisis*. Massachusetts Institute of Technology Center for Advanced Engineering Study, 1988.
- Nina Fishman, "Our Customers Want Seamless Excellence in Their Training." *Journal for Quality and Participation*, December 1990.
- Patricia A. Galagan, "David T. Kearns: A CEO's View of Training." *Training & Development Journal*, May 1990.
- Patricia A. Galagan, "How Wallace Changed Its Mind." *Training & Development* (formerly *Training & Development Journal*), June 1991.
- H. James Harrington, *Business Process Improvement*. McGraw-Hill, New York, 1991.
- Kaoru Ishikawa, *What Is Total Quality Control?* (translated by David Lu). Prentice-Hall, Englewood Cliffs, NJ, 1985.
- Tom Peters, *Thriving on Chaos*. Alfred Knopf, New York, 1988.
- Phillip J. Ross, *Taguchi Techniques for Quality Engineering*. McGraw-Hill, 1988.

General topics for Phase 5 training in statistical process control include variation and data distribution, run charts and control charts, special versus common cause variation, critical parameters, identification of out-of-control limits, and corrective action.

For training in business process improvement, topics include organizing for improvement (organizing an improvement team, selecting a process of improvement, and selecting process owners); understanding the process (block diagramming, defining process boundaries, flow charting, and interviewing); streamlining the process; and effecting continuous improvement.

Phase 6—Quantitative Methods

Quantitative methods for product design, development, and production include such activities as statistical design of experiments, sampling methodology, process capability, reliability engineering, and the techniques developed by Genichi Taguchi.

Quantitative methods are normally used only by the engineering and quality assurance functions. If internal expertise isn't available, external experts can teach these methods. The statistics involved are challenging, but in many cases, the greater challenge is providing a work environment conducive to their systematic use.

Developing such an environment requires getting management at all levels to understand the benefits derived from these methods. This understanding is difficult to achieve. Few managers have the time and inclination to learn statistics.

Luckily, each quantitative method is based on key concepts that are understandable even to those who have not mastered the techniques themselves. Learning the underlying concepts can help managers achieve a more profound understanding of quality and can make them more supportive of the people who are applying the techniques. Here a few examples to help make the point.

Taguchi Techniques. One of the major contributions made by the noted Japanese statistician, Genichi Taguchi, is his conceptualization of the "quality loss function."

The traditional quality control approach says a product or service is acceptable if it falls somewhere within specified tolerances. The quality loss function demonstrates how any variation from the ideal or nominal value, even within acceptable tolerances, constitutes some degree of loss. And loss can be equated with additional, unnecessary cost.

The quality loss function helps managers clearly visualize why traditional "conformance to specifications" thinking is no longer acceptable and why it must be replaced with a philosophy of constantly minimizing variation—otherwise known as continuous improvement. It takes the concept of continuous improvement from the realm of philosophy and provides a statistical model that busy managers can readily understand.

Sampling Methodology. One of the most commonly used acceptance sampling methods is Acceptable Quality Level, or AQL. This approach is based on a previously determined maximum level of defects. The basic premise is that when products or materials are sampled and do not yield a greater number of defects than the agreed-upon level, the entire lot is deemed good and is accepted by the consumer.

Underlying the AQL approach are the concepts of producer and consumer risks. The producer faces the risk of the consumer rejecting materials that are actually good. The consumer faces the risk of accepting materials as good when they are actually bad.

Managers are often surprised to find out that the AQL acceptance sampling method actually balances the risk scale in favor of the producer—the opposite of what they would have logically expected. That realization quickly leads otherwise complacent managers to question the benefit of continuing to use the AQL approach, and to seek a more effective alternative.

Process Capability. It's always important to understand the capability of a work process to produce a result that's within designed tolerance levels. Variation is inevitable, so it's necessary to specify a nominal or ideal value—plus or minus some degree of variation. When we compare the allowable tolerance range of a part with the normal variation of the process used to produce it, we can determine a "process capability index."

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But design tolerances are determined by product engineering, and process variation is determined by manufacturing. So the practical implication of the concept for managers is the necessity for what is called "concurrent engineering"—product engineering and process engineering collaborating to ensure a high-quality product.

Organizations have talked for years about the need for a more collaborative relationship between those traditional adversaries. A conceptual understanding of the process capability equations makes that conclusion unavoidable.

Once again, subjective judgment or philosophy is replaced by statistical reality.

Aligning Training Resources

Organizations that have undertaken training for quality awareness employee involvement, or statistical process control in isolation have frequently been disappointed with their results.

Training must be preceded by a well-articulated quality strategy and must be designed to facilitate its implementation. Each phase of the quality training curriculum should build on the preceding phase of the training, to give people at every level of the organization the knowledge and skills they will need, when they will need them. And the training design must take into consideration the differences in roles between executives, managers, and individual contributors.

Of course, most companies are already conducting training that is not directly linked to their quality initiatives. Those training programs— for example, management and supervisory development, product and technology training, and computer application skills training programs—should also be seen as supporting the organization's overall improvement effort.

The skills of delegating, goal setting, and giving performance feedback, long taught in management development classes, attain greater significance when they are applied in the context of leading an improvement process. The same is true of the skills that are taught in most basic sales training courses, such as developing rapport and trust, soliciting needs, negotiating, and resolving conflict.

We should break down the traditional walls between training specialties and focus our combined efforts on the common goal of improvement. The best opportunity for success comes from aligning our training resources to support the organization's improvement strategy.

TDY 93/94 CASE STUDY: QUALITY TRAINING AT SOLECTRON CORP.

Source: "Family Man," by Eric Raimy, *Human Resource Executive*, April 1992, pp. 1, 20-22

Bill Yee, says the author, serves as a father-figure to Malcolm Baldrige-winning Solectron Corp. of Milpitas, California. His job is head of Solectron University, the company's consolidated training operation. This year, the company plans to deliver 95 training hours per employee, and this figure is expected to rise to 150 hours by 1995. Some of the programs are ESL classes offered on-site by San Jose/Evergreen Community College to the company's mostly Asian-immigrant employees. Other courses include a 32-hour Zenger-Miller course called "Working" that teaches interpersonal skills to lead employees. The author gives background information about Yee, other company officers, and an employee who rose from inspector to production supervisor through hard work and study. Solectron went after the Malcolm Baldrige National Quality Award "not to win the prize," Yee explains, "but to use the competition as a roadmap for continuous improvement." The author concludes by briefly describing meetings held to improve manager communication and to exchange information about quality improvement efforts. (AN257)

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CASE STUDY: MEETING MANAGERIAL RESISTANCE TO TQM

Source: "Fostering Quality Leaders: First Step Is to Unravel Resistance," *Total Quality*, January 1992, p. 6

When Chevron Exploration and Production Services of Houston experienced strong executive-level resistance to total quality management (TQM), explains the author, they discovered it was based on fear of change, and resentment that the rules for managers had been changed in the middle of the game. In order to get managers past these mental blocks, the company took a 3-step approach: (1) identify the leadership skills managers need to display as TQM models; (2) develop a baseline of managers' current leadership behaviors, values, traits, and characteristics; and (3) develop strategies to help managers change thinking that is not conducive to quality. An assessment of managers' competencies and personality characteristics was made using the *Leadership Management Job Dimension*. In addition to a self-rating, 8 to 12 subordinates and the manager's supervisor filled out questionnaires, as well. In addition, the *Myers-Briggs Type Indicator* and the *16 Personality Factor Questionnaire* were also administered. As managers learned what others thought of them, they were more motivated to change. The author describes the managers' willingness to rewrite mission, vision, purpose, and values statements, and then narrow company goals. (AN258)

CHAMPIONING THE CAUSE

by Jeffrey Jury

As more and more organizations begin their total quality journey, it is evident that employees cannot be "instructed" into successful implementation of the concepts. They must become committed to the basic philosophy and recognize that they will benefit personally.

At the Westinghouse Productivity and Quality Center (WPQC) we are responsible for assisting Westinghouse operating units in implementing total quality. Organizations ask for our help in getting employees to see the benefits of total quality and accept change. These organizations typically have a vision and mission statement based on the concepts of total quality, requiring changes in the way people operate. However, most managers are unsure how, and if, employees are acting differently than in the past.

Typically, organizations start out believing that a short workshop with senior managers, or one day of all employee training will get quality implanted in the organization. However, this short-term, "quick fix" approach rarely works.

We first determine the level of management commitment to implementing total quality. If management is willing to provide the resources and time to successfully implement total quality, then we know we can assist them in their efforts. On the other hand, if management wants a "quick fix" to total quality, there is very little we can do to successfully change the organization.

Training Total Quality Trainers

If management is committed, they frequently ask us, "How can we get all our employees aware of total quality and committed to change with us? We have a vision for this organization that requires that everyone be involved with total quality. How can we turn that vision into an operational reality?" In response to this, we needed to develop a process which would allow us to build on the momentum of management commitment and quickly get as many people committed to total quality as possible. As a result, we created a Training Total Quality Trainers (TTQT) process to rapidly spread total quality understanding, participation and involvement throughout an organization. The process trains employees as quality awareness trainers, who subsequently train co-workers at all levels of their organization. Employees are exposed to the concepts of total quality and are assisted in implementing quality improvement changes. As a result, we leverage the total quality expertise of WPQC by preparing individuals within each organization to be effective and committed total quality resources.

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Creating Effective Change

The primary issue we have to address with most organizations is: how do we convey the importance of total quality to everyone and get them to change? Working with a Westinghouse operating unit, we began analyzing the best methods of passing information from "quality experts" to other personnel. We knew we did not want to simply lecture individuals on the need for quality. "Pouring information" into employees' heads and asking them to memorize it would not assist in changing people's behavior and the organization's culture. We needed to create a network of total quality champions who would carry the message forward under all circumstances. These champions, working with a committed management, could be the foundation of cultural change. They would become owners of the total quality improvement process, acting as top management's missionaries to lead the total quality journey.

It was also essential that each person involved understood the "WIIFM" (what's in it for me?) of total quality. People will make changes when they can see a benefit from the change. As a result, when asking individuals to make a significant change in behavior, you need to show them how they will gain from doing things differently.

Consequently, we needed to develop a process which met three requirements:

- Reviewed important total quality techniques/ tools.
- Conveyed an effective process by which the information could be learned by individuals.
- Explained to individuals the benefits of being involved in total quality.

Developing a Learning Process

After reviewing our past personal and professional training experiences, we agreed that lectures and presentations would not be effective. We selected experiential learning, or "learning by doing," as the best means of teaching. Acting as the total quality experts, the facilitators from the Productivity and Quality Center would lead the training process. The trainees would be given a number of opportunities to learn from observing, and actually practicing and implementing total quality. Therefore, they would be learning by actual experience, not by memorizing theory:

The learning process consisted of six basic steps:

- Observe a total quality expert teaching.
- Review the style/approach of the expert.
- Analyze the material taught.
- Analyze the training process (facilitation, group dynamics, etc.).
- Practice teaching the same material.
- Receive feedback from fellow trainees.

From working with a number of groups in implementing total quality, we found that the most effective "conveyors of information" were those individuals who were deemed most credible by the audience. Although professional speakers or quality experts were effective, the biggest impact came when using peers of the audience who were very knowledgeable about quality. As a result, we decided that the trainees should be representative of the entire organization. If the organization had factory workers, engineers and managers, then the trainees should be factory workers, engineers and managers. Therefore, individuals from across the organization were chosen by the following criteria:

- Employed in any function or position.
- Possesses peer credibility.
- Energetic and enthusiastic.
- Self-confident.
- Possesses basic presentation abilities.

We were not concerned with trainees having extensive experience in presenting or teaching. The process we were developing would provide the necessary skills to be an effective communicator. However, being credible in the eyes of their peers was an essential element we could not teach.

The Training Course

The trainees participated in the Training Total Quality Trainers process over three and a half days. They were exposed to specific concepts about total quality and given the "tools" necessary to convey that information to their peers.

At first, the participants were skeptical about total quality, seeing it as a senior management ploy to reduce overall employment. (For example, middle management believed that middle management positions would be eliminated and hourly workers believed that hourly worker positions would be eliminated.) However, as the training progressed, one by one, the trainers began to understand the value and power of the concepts and began to understand the "WIIFMs."

There was less concern about possible negatives and more acceptance of all the potential benefits. As the group began to accept total quality concepts, the facilitators leading the process had to explain less and less. If one trainee asked a question, typically another one would offer an answer. As a result, the trainees began to gain confidence by explaining the concepts and methodologies of total quality to each other. This confidence was then used to help them prepare for their peers back at their work groups.

In addition, the course had to be enjoyable so that all involved saw it as a positive experience. For example, we dedicated time to learn something personal about each person in the class. Also, we maintained a very informal class atmosphere, encouraging an open exchange of ideas.

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During the session, the facilitators are very open and willing to address any concerns the trainees may have. In many ways, we are asking the trainees to put their own personal credibility on the line. Therefore, they are very demanding during the training, challenging the material and asking for examples of organizational success and personal "WIIFMs." Our job, as facilitators, is to prepare these individuals to go back to their respective organizations and ask their peers to accept a dramatic change: total quality. To ensure the trainees' success during the three and a half days of training, he/she learns the following "tools":

- Presenting total quality concepts clearly so that the audience can apply the tools in their work setting.
- Facilitating discussions so that the audience can better understand how total quality can help the organization and, as a result, help the individual.
- Facilitating learning through experiential exercises to ensure a more lasting impact than a lecture.
- Handling difficult group situations, such as disruptive behavior or lack of participation.
- Effectively using viewgraphs, charts, video tapes, etc., to enhance the learning experience.

The TTQT process allows some flexibility as to what specific total quality concepts are presented during the training. We have developed a number of specific modules which can be used during the training process:

- Total quality awareness—philosophy of total quality and the organization's vision and mission statement.
- Process improvement—all work is a process and can be improved.
- Problem-solving—tools to use in improvement teams.
- Measurement—how do you know you are improving?
- Analyzing cycle time—reducing time to produce product/service.
- Just-in-time inventory—inventory control for the factory or office.

TDY 93/94 RESEARCH SUMMARY: TRAINING FOR QUALITY

Source: "Quality Initiatives: Searching for Training's Optimal Role," by Christopher Busse, *Training Directors' Forum Newsletter*, August 1992, pp. 1-3

Training executives continue to struggle to find a niche in industry's march toward total quality management (TQM), says the author. In a survey of 40 training executives, the author found that only 28% said quality training was primarily the responsibility of the training department. And while 43% indicated that their training function helps coordinate and integrate the company's quality initiative, only 30% consider the level of involvement optimal. Interviews with training executives from 4 firms—Phone Power (Ottawa, Ontario), Volvo Cars of North America (Rockleigh, NJ), Callagen Corp. (Palo Alto, CA) and Black & Decker (Hampstead, MD)—netted several suggestions concerning quality training:

- When training is delivered by managers of a particular group, they can tailor the training and achieve a better result than a generic offering by the training department. Trainers are needed to train line managers as instructors.
- Trainers also need to serve as watchdogs to keep quality consultants from reinventing the wheel where training is concerned. Quality training should be built upon existing foundations.
- Typically, quality training has lots of start-up energy, but little "second wave" training. Training departments should be included in planning so they can provide the maintenance training to keep quality going in a company.
- When quality training is integrated into a company's training department, employees see it as an on-going emphasis, rather than a fad.

The article includes a helpful chart that contains a master quality training schedule from a Deming Prize-winning Japanese manufacturing company. (AN259)

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Which modules to use is dependent on the needs of the organization. Typically, all organizations use the total quality awareness and the process improvement modules. The other modules are used as needed.

The total quality awareness module provides the basic philosophy of total quality and discusses the operating unit's vision and mission. Trainees are encouraged to challenge the operating unit's commitment to total quality. The facilitators want the trainees to be comfortable with the operating unit's quality philosophy, therefore, we want all concerns discussed by the group. Acceptance of the vision and mission are the basic building blocks to a successful implementation of total quality. The process improvement module is used to explain that all work is done through processes. It is important for employees to understand that by identifying and owning key processes, they can focus on improving those processes. This, in turn, will improve overall business and make everyone's job easier.

Creating Total Quality Champions

The TTQT process is designed to create a cadre of very committed employees who will carry the total quality message throughout the organization. The trainees are carefully selected as representative of the organization and their mission is explained to them early in the process. Over the three and a half days of the training, the facilitators continually work to ensure that the trainees gain confidence and belief in total quality. We are asking these trainees to assist in a cultural change of their organization. Therefore, we have to prepare them to handle the questions and concerns of their peers.

The TTQT process will have a major impact throughout an organization by introducing everyone to the concepts of total quality. Specifically, the culture of the organization will begin to change because we will be changing people. These changes will take place through:

- Creating in-house champions to help manage the total quality journey.
- Increasing the organization's awareness of value-creating and cost-saving total quality concepts.
- Increasing training and facilitating capabilities in trainees.
- Enhancing "buy-in" and commitment from employees by showing them management's commitment to total quality.
- Building employee commitment to total quality by helping all employees understand their role in the process.
- Developing a well-trained, motivated group of employees who are willing to take the lead on the total quality journey.
- Creating a cadre of trainers to assist quality improvement teams.

The Champions Take the Lead

During the TTQT process, participants undergo a transition from unbelieving to committed. Over the course, they learn to embrace the changes brought on by total quality as a positive evolution of their organization.

At the end of the first day, participants are skeptical and somewhat overwhelmed by the material. By the end of day two, participants are starting to understand the value of total quality and believe that they can benefit from it. When day three comes to a close, participants accept the concepts and are willing to "take the message back home." By the end of the fourth day, participants are excited about the potential of total quality and want to take the lead in changing their organization.

We have found that after attending the TTQT training, participants create an informal support network. They stay in touch with each other to discuss the problems and issues they face as they convey the total quality message to their peers. This network is very useful in helping individual trainers overcome problems with their audiences. The network also helps maintain the speed with which the concepts are introduced throughout the organization. For example, the trainers are all aware of which of their fellow trainers have completed introducing total quality to their work groups and which trainers are behind schedule. Trainers who are behind schedule face a certain degree of peer pressure to catch up. This ensures that the entire organization is undergoing change at approximately the same time, not just certain departments.

Implementing Change

The enthusiasm for the total quality message is evident as the participants return to their individual work groups and begin the process of changing the culture. For example, one operating unit prepared 120 trainers to deliver the total quality message to 3,000 of their peers in six months. Another unit, spread out across the U.S. in sales offices, conducted four TTQT sessions around the country to ensure that 800 employees would get the message.

The ultimate measure of change is reflected in whether or not individuals are behaving differently. The impact of TTQT is evident in the statements of these participants:

- After attending the course, one regional sales manager said, "When I arrived on Sunday (the night before the training started), I thought this was a pain—I shouldn't be here. By Thursday, I was convinced this was a good process, and something else back at the office can go on the back burner. I have the time for total quality."
- At another session, an engineer stated, "How do I feel different about total quality now? I feel so much more charged to move off dead center."
- A salesman observed, "I was concerned about taking on the additional workload of total quality

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but now I understand what total quality is, and I feel more confident about presenting the message."

- At the completion of a session at a manufacturing site, a production line worker commented: "We are very stimulated now—total quality is basic—it's simple and logical. I believe we can motivate people with total quality."

In the 18 months since introducing the TTQT process, over 5,000 individuals have been trained by over 200 trainers. The process has been a very effective tool for implementing change throughout organizations. We have successfully taken a number of skeptical employees from all levels of responsibility and transformed them into total quality champions leading the change within their organizations.

TDY 93/94 CASE STUDY: COOPERATIVE QUALITY TRAINING FOR SMALLER FIRMS

Source: "Partnerships for Quality," by Anthony J. Girifalco, *Quality Progress*, February 1992, pp. 51-53

While small and medium-sized companies face the same issues larger companies do, they have far fewer resources to develop a Total Quality Management (TQM) program. The Delaware Valley Industrial Resource Center (DVIRC), established in 1988 by the Commonwealth of Pennsylvania, serves a multi-county region around Philadelphia, and its mission is to meet the needs of smaller manufacturers. The author outlines the partnership philosophy of DVIRC and describes its functions. The organization coordinates the services of all the major quality providers in the area: community colleges, universities, professional organizations, and the Philadelphia Area Council for Excellence. They have developed a training curriculum based on local needs which can be offered to companies on-site or in a larger context. Other achievements include (1) bringing "Quality Forum VIII" via satellite, (2) creating a quality calendar, (3) establishing a Delaware Valley Total Quality award, (4) developing a staff to work with individual companies to develop TQM, and (5) hosting seminars as part of GE's "Supplier Excellence Program." (AN260)

TDY 93/94 CASE STUDY: TRAINING FOR CONTINUOUS IMPROVEMENT AT A SMALL MANUFACTURER

Source: "Education Drives Continuous Improvement," by Dennis D. VanPelt, *Technical & Skills Training*, August-September 1992, pp. 9-11

In 1986, Glacier Vandervell's 300-worker plant in Atlantic, Iowa, made a commitment to improve its operations through extensive training. This article relates how the plant worked with Iowa Western Community College to enhance its employees' statistical process control skills, and won the Shingo Prize in the process. The program entailed 56 instructional hours for all management, salaried, and key hourly employees—and 24 hours for the remainder of the workforce. It consisted of 12 modules, focusing on topics such as problem solving, process control charts, and data analysis and interpretation. In addition, there was training in math and reading comprehension, and employees were encouraged to complete the program to the eleventh-grade level. The program also encouraged employees to expand their skills through cross-training on machines, participating in a skills inventory program, completing in-house training programs, and taking other formal education courses. To gain commitment to training and education, the plant instituted an employee participation program which stressed employees' accountability for their actions and their ability to influence decisions in their area of competence. Several additional training programs were added through a partnership between the company and the college, with each program headed by a different project coordinator, and based on a just-in-time (JIT) or cellular training concept. One benefit from the program has been the Shingo Prize for Excellence in American Manufacturing, which is awarded to companies which implement lean JIT philosophies, eliminate waste, and achieve zero defects. A sidebar explains the Shingo Prize and gives information on how to apply for it. (AN261)

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TDY 93/94 IN BRIEF

EARLY U.S. QUALITY TRAINING

Source: "Pioneering Quality Training," by Tom Cothran and Margaret Kaeter, *TRAINING Magazine* (special supplement on Quality), April 1992, pp. 13-18

Companies which recently won the Baldrige award for quality didn't begin stressing quality yesterday. When they began a decade ago, say the authors, Japanese approaches to quality just couldn't be transferred wholesale to US firms; they needed an individual approach. This article is based on interviews with trainers from 5 Baldrige winners: Motorola, Xerox, Globe Metallurgical, Federal Express, and Westinghouse. Each company shared a common history on some points: (1) they helped change employees' attitudes about both quality and the company, (2) they developed specific skills that could help employees adopt quality strategies, and (3) they set the stage for continuous improvement efforts. However, the 5 companies reported 3 distinct ways that a training-enhanced quality culture took hold:

- **Training-driven.** At Motorola, training served as a centralized function to spread the Six Sigma program (less than 4 defects per million) throughout the company's diverse production lines.
- **Market-driven.** At Westinghouse's Commercial Nuclear Fuel Division, and at Xerox, the business objectives of top management provided the impetus. At Federal Express, decentralized divisions approached quality in varying ways in the early days before company COO James Barksdale brought a cohesive approach in 1987.
- **Customer-Driven.** The Silicon Metal Division of Globe Metallurgical was pushed into quality by the increasing demands of its customers. (AN262)

CHOOSING A TQM TRAINING CONSULTANT

Source: "Choosing a TQM Consultant," by Charles L. Roxin, *Training & Development,* February 1992, pp. 69-70

How does one choose a consultant to train in total quality management (TQM)? The author believes that several questions clarify the issues:

- **Do we really need TQM training?** To find out, the author suggests conducting a management or operations audit.
- **Do our managers need coaching?** To achieve quality results, managers must continually reinforce quality training, and to do that they must be competent in TQM skills.
- **How much help should a training supplier provide?** A training supplier shouldn't be responsible for technical work; an organization needs to develop its own technical expertise in order to conduct quality improvements.
- **What kind of training do we need?** The author recommends training that is interactive and reality-based.

The author's profile of a desirable TQM training supplier is someone (1) who is willing to establish a close and continuous relationship with the training buyer and organization, (2) who will be accountable for all training materials, and (3) who will provide coaching and guidance for key staff members before implementing training for the employee population. Other variables include: commitment, follow-through, flexibility and empowerment, and persistence. (AN263)

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D-3. CUSTOMER SERVICE TRAINING

TDY 93/94

CASE STUDY: TRAINING FOR CUSTOMER SERVICE AT SEAFIRST

Source: "Making Service Quality Look Easy," by Milo R. Paich, *TRAINING Magazine*, February 1992, pp. 32-35

Seafirst Bank of Seattle turned from losses to profits in the 80s by becoming a customer-focused organization, says the author. He devotes most of this article to outlining Seafirst's customer service philosophy: a "franchise management" strategy, sales goal incentives, a Gold Club incentive that requires high customer satisfaction scores, a customer-friendly environment, short lines, and concentrated follow-up to retain new accounts. "The fuel for Seafirst's program," says the author, "is extensive training, with particular emphasis on the skills and behaviors needed to provide extraordinary customer service," patterned after that provided at McDonald's Hamburger University training center. The author highlights 3 integrated training programs: (1) a 2-day program for support staff that emphasizes service to internal customers, (2) a 2-day program for tellers and customer-service representatives focused on service to external customers, and (3) a one-day program for supervisors that concentrates on how to be a good coach. This integrated approach has given Seafirst a common language and has encouraged the kind of teamwork needed in order to deliver high-quality service to customers. (AN264)

TDY 93/94

CASE STUDY: CUSTOMER SERVICE TRAINING AT A HOME HEALTH CARE FIRM

Source: "Line Trainers Help to Carry the Customer Care Message," *Training Directors' Forum Newsletter*, January 1992, p. 5

Kimberly Quality Care, a Boston-based home health care company, needed to help their 5,000 employees learn to provide care in such a way that their clients *felt* cared for—the personal touch. In order to provide the training, the company prepared a 28-minute video showing real-life footage of clients receiving "model" care and attention from caregivers and managers. Following the video and in a one-day training session, facilitators walk through a workbook with trainee groups of 20. Following the training, each participant develops his or her own 30-day, signed contract for service improvement. As for results, the author reports improved morale and lower turnover. Nearly 80 facilitators went through train-the-trainer sessions to offer the training at the firm's 400 autonomous branches. (AN265)

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CASE STUDY: TRAINING FOR CROSS-CULTURAL CUSTOMER SERVICE AT UNITED AIRLINES

Source: "Training Helps United Go Global," by Shari Caudron, *Personnel Journal*, February 1992, pp. 103-105

In just 5 years, United has grown from a primarily domestic airline to a full-fledged international one, serving approximately 200,000 people per day in 18 countries. This article describes the challenges United had to face in accommodating the different values and approaches to the airline business found in the various countries it serves. Last July, the company embarked on an 18-month training program, "Best Airline—The Global Challenge," which is designed to instill international awareness and world-class customer service in its employees. While it is impossible to anticipate and teach every single cultural idiosyncrasy, United customer service manager Ron Madsen focuses on what he calls the "Triple A" of cross-cultural communication: "We accept that cultural differences exist. We adjust our thinking to accommodate those differences, and we accept customers on their terms, not ours." A 200-page pre-training workbook also helps orient trainees to cultural diversity. Training for in-flight personnel has been expanded to include: (1) an increase in the flight attendant's knowledge of the international marketplace, (2) improvement of service and presentation skills, (3) a strengthening of food and wine knowledge, and (4) enhancement of the attendant's professional image. International foods and beverages of quality have also been added to the menus to enhance the United traveler's international experience. While cultural fluency is now more valued than ever, the author concludes, the key to success is still sensitivity to individual needs. (AN266)

IN BRIEF

TRAINING TO SERVE INTERNAL CUSTOMERS

Source: *Serve Yourself: Customer Service From the Inside Out*, by Richard H. Baker, Human Resource Development Press, 1992, 198 pages, $19.95 (resource guide - $49.95)

"Customer service does not stop at the service counter," insists the author. "The people who must do the front-line work need support from the rest of the organization. Your customer service employees are your own internal customers. So are all your other employees. Everyone in the organization services someone else." This book and a carefully coordinated training resources kit are designed to be used together to train managers and employees to understand and implement the principles of serving internal customers. The training program looks at customer service as a process that involves the entire organization. The material includes 9 chapters or lessons:

1. Customers Aren't Always Who You Think They Are
2. How to Know and Serve Your Internal Customers
3. Models for Internal Customer Service
4. Service and Quality: The Vital—and Often Missing—Link
5. Building a Customer Focus
6. Gearing Up the Organization
7. Getting Employees Involved
8. Implementing Internal Customer Service
9. Internal Service People

The package includes a student handbook, course outlines, handout masters, and nicely-illustrated overhead transparency masters. (AN267)

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E. TRAINING FOR SOCIAL RESPONSIBILITY

E-1. ETHICS TRAINING

REINFORCING ETHICS AT WORK

by Jan Bohren

Ethics, the fad of the 1980s, and a word that conjures up visions of righteousness and purity, is still a threatening subject to many employers. Although some employers would like to explore the concepts of ethics and set guidelines, they fear the dangers inherent in an open discussion of ethical concepts and in any subscription to a set of ethical standards. And for many companies that have already conscientiously spent small fortunes developing "codes of ethics" and that genuinely believed in achieving the objectives and virtues in those codes, a sobering reality exists—their honest attempts to guide their employees toward proper behavior have failed.

There is substantial evidence that codes of ethics fail to independently thwart transgressions of generally recognized ethical business behavior. Former Washington State University professor Marilynn Cash Mathews surveyed more than 350 firms and came to a rather jarring conclusion: Those companies with written ethics policies were more often charged with wrongdoing than those without such policies.[1] Because codes of ethics do not necessarily protect companies from liability when employees break the law, employers should not use liability protection as a motivator for developing of such codes. A review of the literature also suggests that corporations that have avoided major ethical problems have combined expressed codes of ethical conduct with effective management and employee education.

Corporate solutions to the ethics communication dilemma commonly include steps such as:

- Creating a code of ethics.
- Establishing an ombudsman between employees and the company.
- Establishing mandatory training courses for all employees, to *teach* them ethics.
- Holding a comprehensive orientation for all new employees to indoctrinate them on the company credo.

While none of the foregoing approaches is wrong, none is a panacea: None is individually sufficient in developing the degree of consciousness necessary for good ethical decision-making. However, any of the above approaches is better than nothing at all. If companies are to develop codes of ethics, their goal must be to mimic initiatives of other corporations. Employers must avoid at all costs a "quick fix" approach to meeting the call for an ethics agenda.

When defining a corporate approach to ethics, it is usually difficult to decide exactly how to teach ethics and exactly what to teach. In fact, most managers do not have MBAs, nor have they completed undergraduate curricula in business or management where they might be exposed to the new ethics initiatives adopted by nearly every major university today. No matter what type of ethical statements are promulgated by corporations, one thing is clear—employees must have some idea about what top management, and particularly their immediate supervisors, expect of them in carrying out their day-to-day jobs.

The challenge for human resources professionals therefore is to develop a program that will be embraced by managers and that will communicate a corporate credo in the most practical way. The most logical means to accomplish this goal is to capitalize on existing intrinsic employee value systems. Remember, do not get wound up in the academic or theoretical aspects of ethics. The company that communicates its expectations of high ethical standards, demonstrates them in top management decisions and actions, and rewards employees for practicing ethical business standards will probably be around long into the twenty-first century.

Teaching Ethics

A large health insurance company set out to develop an ethics program for approximately 1,000 first- and second-level managers. Although the company wanted to communicate its corporate expectations with respect to ethical business practices, it didn't want to put managers "on the spot" in communicating those expectations. Thus, an "Ethics Module" was added to the company's supervisory training course, a course that more than 900 managers passed through since 1987.

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RESEARCH SUMMARY: IMPACT OF ETHICS PROGRAMS

Source: "Do Company Ethics Training Programs Make a Difference? An Empirical Analysis," by John Thomas Delaney and Donna Sockell, *Journal of Business Ethics*, Vol. 11, No. 11 (1992), pp. 719-727

What difference do ethics programs make? In an attempt to answer this question, the authors conducted a study among graduates of the Columbia University Graduate School of Business. Their questionnaire was completed by 1,073 graduates (an 18% return rate). Overall, 36% indicated that their firm had some kind of formal ethics program. Further, the authors' findings indicated no statistically significant association between the mean number of ethical dilemmas experienced by respondents and coverage by ethics programs across industries. However, data indicated that:

- Firms experiencing large numbers of ethical issues do not avoid the adoption of ethics programs to protect the potential profitability of unethical employee conduct.
- Individuals in firms that have ethics training programs are less likely to perceive that they have "to do things that are not right" to get ahead than are employees in firms without such programs.
- Individuals exposed to ethics programs are more likely to have refused to take an unethical action when confronted with their most serious ethical dilemma than were other respondents. (AN268)

The Ethics Module is mandatory for all first-line supervisors and optional for higher-level management (actual participants, however, range from first-line supervisors to corporate vice presidents); participants' seniority ranges from a few weeks to 20 or 30 years. To allow for optimum participation, the company limits each training session to 24 participants. Sessions run for about one and a half to two hours and are rapid in pace. Precourse readings include a selection of *Harvard Business Review* articles such as Bowen McCoy's "The Parable of the Sadhu," Robert Jackall's "Moral Mazes," and Sir Adrian Cadbury's classic, "Ethical Managers Make Their Own Rules."[2]

Top human resources executives present the Ethics Module about once per month. The training is highly structured and controlled. It is not designed to put employees in the "hot seat"—participants are not required to share explicit examples of situations or issues in their work areas. However, ethical dilemmas presented by the group leaders in each training session demand a high level of participation. Leaders call on every manager in the group several times for his or her opinion or comment on the specific issues or ethical situations raised.

The module's training methodology draws a variety of responses from participants. Course leaders intentionally do not give manager students any time to discuss parameters or other hypothetical situations. Because this style is used, participants cannot formulate a different response than the one forced by the facilitator. Thus, the training replicates a situation found in the daily lives of almost all managers—pressure to make a decision fast with no time for discussion or deliberation.

The point of the module is to teach managers how to recognize when to call "time out," and when to seek guidance from each other, their superiors, friends, spouses, associates, or even their subordinates. The module, however, is not focused on developing a consensus. Instead, it is aimed at raising the manager's awareness so that he or she recognizes the ethical ramifications of decisions and the need to explore alternative solutions to problems that present ethical dilemmas. For example, managers need to be able to recognize situations involving "lifeboat ethics"—cases where managers must decide among options that are not particularly palatable. The training in the ethics module shows managers how these situations are not as rare as first thought.

The ethics training in the module is not designed to "teach" what ethics is or isn't. Instead, the training is designed to capitalize on the inherent desire of all managers to behave in an ethical way. Course leaders stress to participants that the company is relying on the ethical

[1] Mathews, M. Cash, *Strategic Intervention in Organizations: Resolving Ethical Dilemmas in Corporations*. Newbury Park, CA: Sage Publications, 1988

[2] "Ethics at Work," *Harvard Business Review Special Collection*, 1989

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Sample Exercises

Training in the Ethics Module is like advertising in some respects. One must tell the message over and over again until, through redundancy, the listener etches the message indelibly in his or her mind. The company approaches the training in business ethics in the same way—leaders repetitively use many examples of issues or dilemmas that require the student manager to react. In one exercise, leaders ask managers to respond to a series of a dozen or so "no-risk" ethical questions such as:

- Is it ethical to smoke cigarettes?
- Is it ethical to sell cigarettes?
- Is it ethical to ask someone to carry a package on an airplane for you?
- Is it ethical to stop payment on a check if the charge was unreasonable?
- Is it ever ethical to disobey a law?
- Is it ethical to ever break a promise?
- Is it ethical ever to break a promise to a dying person?
- Is it ethical to require tests for AIDS for jobs in hospitals?
- Is it ethical to disconnect life support equipment from people who are still alive?

In response to these questions, members of a group usually never agree on what is ethical or unethical. This disagreement, however, is usually attributed to differences in individual values. These questions help set the stage for a later discussion on the importance of recognizing when to deliberate on decisions with significant ethical ramifications.

Another exercise in the Ethics Module uses brief situational descriptions to deal with "no risk" ethical dilemmas. Examples of such descriptions include:

- It's 3 A.M. and you are waiting at a red light in a residential district. Absolutely no other vehicles are in sight. You have been waiting 25 minutes and the light is still red. You look both ways, see no traffic, and drive through the red light. Is this ethical? *(This description offers the opportunity to discuss the difference between the terms ethical and legal.)*
- You are 50 miles from home and have a flat tire. The only gas station nearby agrees to fix your tire and does so in five minutes. Then the mechanic charges you $250. You write a check, grumble all the way home, and the next morning call the bank and stop payment on the check. Is this ethical? *(This scenario opens discussion on the issue of responding to unethical acts.)*
- A ship goes down at sea and 24 passengers climb into a lifeboat that is safe for only 12. The captain of the ship, one of those in the lifeboat, has a decision to make—allow all 24 passengers to stay in the boat and risk the death of all, or throw 12 passengers out of the boat to their certain death while significantly improving the chance of survival for those remaining in the boat. What would you do? *(This case provides a backdrop for discussing "lifeboat ethics" or the "lesser evil standard".)*
- You know a friend is cheating on her income tax return to the tune of several thousand dollars a year. An IRS agent offers you $1,000 if you will tell him how she does it. You approach your friend and tell her you won't tell the IRS agent—if she will give you $2,000. Your now ex-friend gives you the $2,000. Is what your friend did ethical? Is what you did ethical? Is what the IRS agent did ethical? *(This scenario demonstrates to a group that they are sometimes in close agreement on what is unethical behavior.)*

The last example is one where leaders can predict that individuals in the group will answer "No" 95 percent of the time on all three questions. Such an example is used to illustrate that there are some decisions that do not require much thought, but there are others where considerable disagreement usually exists. The examples where disagreement does exist should prod managers to call "time out" and discuss the ethical ramifications of the issues.

The purpose for using these examples is to allow the participating managers to realize that decision-making methods in these exercises are not much different from their day-to-day management experiences. These exercises condition managers to beware of decisions calling for a yes or no answer if the ethical ramifications of the issue are serious.

conscience that each has developed as part of his or her value system to guide them in their decision-making. In other words, leaders encourage managers to believe that the training, guidance, teachings, preachings, and lectures each has received in school, from their families, in their churches and synagogues, from their life experiences, from their friends, in the military, or at work, have adequately prepared them to think about decisions and to evaluate consequences in an ethical context.

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Sources of Training Materials

When selecting what ethical dilemmas to use in these exercises, human resource professionals can choose politically related or business-related examples. For instance, politically related examples can include: Lincoln's freeing the slaves, Roosevelt's interring Americans of Japanese descent, Eisenhower's lying about the U-2 incident, Kennedy's involvement in the Bay of Pigs, Nixon's Watergate participation, Gary Hart's fall in the 1988 presidential campaign, or George Bush's "read my lips" tax issue. Meanwhile business-related examples can include: Ivan Boesky, Johns Manville, Beech Nut, Northrup, Toshiba, GE, E.F. Hutton, Drexel Burnham Lambert, Chrysler, Hertz, or Volvo. Or, human resource professionals can pluck the ethical dilemma of the day from any major newspaper.

The "Beech Nut Case" is one example of a significant ethical transgression in a business setting often used for dilemma exercises. For example, group leaders ask participants what the brand name Beech Nut means to them. Although responses usually will fall somewhere between chewing gum and chewing tobacco, the group will generally describe Beech Nut as a rather revered name in baby food. Often someone will recall something about the company "putting sugar in the apple juice" or "adding water to the apple juice." A group leader then refreshes the group on two important facts: One, the company was selling jars of juice labeled "apple juice" but there were no apple ingredients in the product; and two, the company's top executives knew they were committing fraud by lying to the consumer public.

Group leaders also use the Beech Nut case to make participants aware of some other essential ethical points through a type of Socratic method of questioning. Example questions and responses include:

Q. Do you think employees at Beech Nut knew that there was no apple juice in the jars?

A. Sure, the guys in the plant must have known. Yeah, the people who change the formula of the product all the time must have known. The procurement people, the stock handlers, the people mixing the ingredients probably knew.

Q. Don't you think that, at some point, one of those workers in the plant would have looked around and said to himself or herself: "Hey! Where the heck are the apples?"

A. Yes. *(This is almost always the resulting unanimous group response.)*

Q. And what do you think would have happened if one of those workers were to have asked the foreman of their section?

A. He would have been fired. He would have been told to mind his own business. He would have been told to shut up and go back to work.

When asked these questions, most participants will acknowledge that Beech Nut's actions were absolutely wrong—ethically wrong as well as illegal. Participants should recognize that the workers had a right to ask questions about the practice based on their own ethical value systems. And participants should conclude that management has no authority to fire someone who did ask about the practice.

Group leaders try to "flesh out" this last point to emphasize what it is that the company stands for. It is at this point that group leaders tell participants that the company respects the high value system they have brought to the workplace and that the company wants them to apply that value system in their business activities. Any attempt by anyone at the company to get managers to behave contrary to their values system is not consonant with company policy. In short: The company has no right to ask you to compromise your own sense of ethics or values.

In many business cases involving a transgression of ethics, some common behavioral patterns exist. For example:

- Money and greed usually are motivators for the unethical practice.
- Top executives in the companies know and approve of the practice in question.
- Many employees of the company know about the practice. Also, many employees could stop the practice.
- Companies usually do not stop the unethical practice on their own—an outside party must catch them.

The Ethics Module also presents ethical dilemmas on specific work-related issues. These issues include: falsification of reports, receiving unauthorized gratuities, carrying out unethical actions as directed by others.

Conclusion

Employers must consider the teaching of ethics in the full context of the culture of the workforce where it will be taught. Employers must determine whether they are merely building a corporate defense or trying to convey to a group of decision-makers that the company wants them to behave ethically in their everyday business decisions. Management's job is to send a "wake-up call" to employees, and especially managers, that the company wants them to bring their ethical consciences to bear on each and every decision they make.

Employees are also very perceptive. If inconsistencies exist in the way the company behaves and the way it says it wants managers to behave, employees will either point out the inconsistency or disregard the message being sent. If there are codes of conduct or codes of ethics in place, the company also needs to be prepared to react to any real or perceived violations of those codes and reinforce them. Actions will be considered proof of conviction on this important subject.

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When implementing an ethics program at your company, remember, corporate credibility, management effectiveness, and employee trust is at stake. Practicing good business ethics is not a fad, it's good business. And in the final analysis, corporate self-esteem will be only as strong as the aggregate self-esteem of the managers who make most of the decisions.

CASE STUDY: CUMMINS ENGINE'S ETHICS WORKSHOP

Source: "Training on Ethics: Cummins Engine Company," by Ronald Nelson, *Journal of Management*, Vol. 11, No. 4 (1992). pp. 21-33

The Cummins Engine Company has gained a reputation as a leader in ethical business management. This article describes the company's formal training program on ethics and management. Their 12-hour workshop over 2 days has as its goals: (1) to increase awareness of ethical dilemmas that surface in everyday life, (2) to reflect on and sharpen the process which we use to make choices, and (3) to understand the framework for ethical management at Cummins. Learning is structured around the analysis of cases and group discussion, and it is aided by a facilitator. The author comments that it is crucial that the cases chosen be relevant to the learners' experiences and needs. The content of the workshop is divided into 3 phases:

- A discussion of the social context of management ethics. The workshop aims to increase awareness of the ethical implications of one's actions and of the concept of social responsibility.
- The introduction of ethical models and frameworks, including (1) ethical reflection and moral imagination, (2) the moral responsibility framework, (3) the stakeholder concept, (4) the potter box, and (5) a review of company policies.
- An analysis of cases and situations brought in by the participants. The models and frameworks previously discussed are thus applied to real-life issues.

At Cummins, ethics training is viewed as one step of an ongoing process of encouraging ethical behavior. (AN269)

E-2. TRAINING FOR A DIVERSE WORKFORCE

INTEGRAL STEPS FOR BRIDGING RACE, LANGUAGE, GENDER GAPS

by Randall Johnson

Diversity training promises to be one of the next great tides in the sea of human resource management. And with good reason. Few things contribute more to workplace distress than misunderstandings between people with different backgrounds or points of view. And a little misunderstanding can do a lot of damage.

Michele Hunt, senior vice president of quality and people development at the Herman Miller Co., relates this story as an illustration of the need for—and potential of—diversity training:

The furniture manufacturer's Sacramento facility includes employees of 27 various nationalities and is routinely the firm's top production facility. In many ways it is a model of diversification. Yet one day an employee brought his dog to the plant. When the dog barked menacingly at a nearby group of employees, the owner dismissed the behavior with a racial slur, saying the dog had a dislike for the men's ethnic group.

The incident was reported to management. The man might have been fired. Instead he was given the option of

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attending a series of diversity awareness classes, intended to help him understand why his behavior was out of line and how it could damage individuals and the entire organization. The education eventually turned the man into a leader in the company's diversity training program.

A dismissal, while solving the immediate problem, would only have added fuel to the fire in the long run, Hunt says. Diversity education turned that very negative experience into one that benefited the parties involved and the company.

Three Training Tacks

That's diversity awareness at its highest level, says David Jamieson, president of the Jamieson Consulting Group and co-author (with Julie O'Mara, president of O'Mara and Associates Inc.) of the book *Managing Workforce 2000: Gaining the Diversity Advantage* (Jossey-Bass, 1991).

Jamieson sees companies taking three paths toward addressing workplace diversity. The first and most common path is "awareness training," designed to make people more sensitive to—and teach them to overcome—their biases and discriminations. "That training takes a lot of forms. Much of it is experiential, an a lot of it tries to help individuals get more in touch with how they think and act so they are better able to work in diverse groups."

Companies on the second path, Jamieson says, view diversity as an organizational and management issue, not just a matter of personal relations. This path often involves senior management sessions focused primarily on explaining how policies, systems, and leadership may either help or hinder diversity management.

The third and least-traveled path leads companies beyond talking to looking systematically at changing company policies and rules to make them flexible enough to allow for differences in needs and preferences.

The Herman Miller case is an example of a company taking the third path. Rather than firing the offender, which might have been easy to do, the organization chose to improve the individual and the environment by making the organization's stand on diversity clear to all.

Most companies are starting out too slowly, Jamieson says, providing a day or so of awareness training to employees and expecting diversity to blossom on its own. "Starting with that kind of training is helpful. But if we train everybody and don't change the systems, we still won't be very effective. Training alone won't solve the problem, but is an absolutely necessary step."

It's essential to address the issue systematically, Jamieson says, to study every part of the company for issues of diversity. "Most people are doing piecemeal work. They'll change a policy or train part of the workforce. But the problem is that the system is stronger than that. The two things that have been ingrained in our institutions for years are male dominance and similarity of the workforce."

Those things are so ingrained that even the best-intentioned people probably have some biases, he says. Education alone cannot remove bias from the workplace entirely; policies and systems must be changed to enforce the need for change.

That may sound like an awfully large first step. The key, Jamieson says, is to start by determining what types of diversity exist in the given environment. "Find out what's really different in the workforce. Don't just respond to generic or national trends. The workforce in America is aging, but in a lot of companies it's not. Don't respond to age diversity as a top priority if it's not a major issue for your organization."

Once the main areas of diversity—race, language, gender, and so on—have been identified, Jamieson recommends forming internal focus groups to determine how the organization is supporting or impeding each group. Then management has to create avenues that allow groups to make changes they identify as necessary. Also, prodiversity behavior needs to be rewarded, he says. An organization can tie diversity directly to incentives by including it in the performance evaluation process.

"You can help a lot of people change mindsets if you create three things: opportunities for attitude change, opportunities for skill building, and opportunities for reward."

The Most Common Reasons Diversity Training Fails

Where organizations often fall down with diversity training, says Julie O'Mara, is in communicating to mangers what their role is in supporting diversity. "A lot of training is not as effective as it could be. Individuals learn quite a bit and make some individual changes. But what's not happening is the culture change, the systems change, the kinds of things that are really going to make a difference."

Part of the problem is that many companies don't have a system in place for recognizing their diversity needs. O'Mara advises the formation a cross-functional advisory group that can contribute input from all areas and levels of the organization regarding diversity issues.

"Look at the organization's practices and policies," she says. "Do an organizational audit and study what the company actually does in diversity-related areas, such as child care, benefits, the reward system. Ask how much flexibility there is in the system."

By discussing those issues and benchmarking against other companies' efforts, the task force should work to change policies and standards to move diversity beyond the personal awareness level and integrate it into the company culture.

Numerous books have been written on the topic of diversity in just the past few years, O'Mara says. Making them available to managers—or all employees—is another way to move beyond the level of self-awareness toward a corporate awareness of the issue. In addition to *Managing Workforce 2000*, she recommends *Beyond Race and Gender: Unleashing the Power of Your Total*

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CASE STUDY: DIVERSITY TRAINING AT PACIFIC GAS & ELECTRIC

Source: "Shedding New Light on Diversity Training," by Ronita B. Johnson and Julie O'Mara, *Training & Development*, May 1992, pp. 45-52

To train its 27,000 employees to value cultural diversity, Pacific Gas & Electric (PG&E) trained and certified 110 line and staff employees as diversity awareness trainers. The authors discuss 4 key qualities which the company sought in its trainers: (1) **self-knowledge**—understanding how one's personal beliefs and values may affect others, (2) **leadership**—taking responsibility for championing diversity, (3) **subject-matter understanding and expertise**—knowing the difference between EEO legislation and valuing and managing diversity, and (4) **facilitation skills**—communicating the exchange of ideas and knowledge in an organized, effective manner. The certification process had 4 phases for candidates nominated by their business units:

1. Questionnaires and interviews that screened out inappropriate trainers,
2. A 6-day, 60-hour train-the-trainer workshop which imparted skills and knowledge, and which was supplemented with books, articles, and a training manual,
3. Sessions conducted by trainees where they were observed by training staff who provided feedback and opportunities for additional experience, and
4. Certification of qualified trainees as diversity awareness trainers.

The authors conclude by listing the benefits of having internal employees provide diversity awareness training, and they probe the future of managing diversity at PG&E. (AN270)

Workforce by Managing Diversity, by R. Roosevelt Thomas, Amacom,1991; *Managing a Diverse Workforce: Regaining the Competitive Edge*, by John P. Fernandez, Lexington Books, 1991; and *Workforce America! Managing Employee Diversity as a Vital Resource*, by Marilyn Loden and Judy B. Rosener, Business One Irwin, 1990.

O'Mara also recommends a video series entitled *Bridges*, by BNA Communications Inc., and another entitled *Valuing Diversity*, by Copeland Griggs Productions.

"Take a look at what's available," she says. "That will serve as an education by itself."

Coca-Cola Co. Employs Continuous Cultural Awareness Overseas

Sharon Schachter, manager of international human resources for technical operations at Atlanta-based Coca-Cola Co., says handling diversity on an international level requires a special kind of finesse. While Coca Cola's U.S. divisions are implementing many of the same racial- and gender-based sorts of diversity training as other American firms, the international approach is somewhat different.

Diversity education, while interwoven through many of the international operations educational programs, is not a stand-alone topic, Schachter says. People aren't sent to sessions dealing exclusively with diversity issues. "We focus more on the way people interact on a daily basis and the way the business is set up in servicing our customers. We don't have to beat people over the head with this topic. They know there are differences and it's just part of their way of life."

One of the ways that kind of continuous cultural awareness is maintained is through cross-divisional task forces. For example, there are five divisions in Europe. Each has its own human resources function. The five HR directors might come together to address a particular concern that affects them all.

One way the company does formally address the issue of diversity is through the use of the Herrmann Brain Dominance Instrument, developed by the Ned Herrmann Group, which categorizes individuals by thinking style. "We've found it very useful as a non-threatening way to look at diversity and its value in terms of decision-making, as opposed to having it be a purely cultural issue," Schachter says.

Coca-Cola has only one management development program, called *Discovery*, that draws people from every division worldwide to the corporate headquarters in Atlanta. The Herrmann instrument is used to divide people into training groups that are deliberately diverse in thinking styles; national origin is disregarded. There is, however, a discussion of how people's thinking styles are molded by a number of background influences, including culture. "We don't list diversity training as one of the

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major issues for sending somebody to this program," Schachter says, "but they start to see diversity in action and appreciate it."

The company is working on a set of programs so that Coke employees (and their families) assigned to a given nation can receive training specific to that culture, rather than a broader cultural training designed, for example, to encompass European culture in general.

Because managers at Coke facilities outside the U.S. are generally drawn from the local population and move into divisional positions without regard for their point of origin, Schachter says, multiculturalism has been somewhat assumed by the company. "One thing that's always been a given is that the senior management is made up of workers from all different parts of the world. It's certainly not top-heavy on the American side. I think it's just something people take for granted here."

TDY 93/94 CASE STUDY: COMMUNITY INTERNSHIPS AT UNITED PARCEL SERVICE

Source: "25 Years of Diversity at UPS," by Bob Filipczak, *TRAINING Magazine*, August 1992, pp. 42-46

With the current concern for appreciating diversity, it is noteworthy that United Parcel Service has, for 25 years, been running a Community Internship Program to help managers understand the people they work with and serve. The program has served 800 managers so far, at a rate of about 40 per year. This article traces the internship program through its roots in the Civil Rights Act of 1964, and the author discusses some of the unique people who have helped UPS achieve its diversity awareness goals over the years. Candidates are selected from among long-service employee—originally they were those whose attitudes were clearly in need of change, and participation was mandatory. Rewards for improvement have motivated other managers to welcome selection to these assignments. The article concludes with guidelines for companies interested in establishing internship programs of their own: (1) get commitment from the top, (2) pick the most influential people to start your program, (3) pick internship sites and facilities carefully to ensure compatibility with the people providing the internship experience, and (4) remember the importance of orientation and follow-up. (AN271)

BACKLASH! THE CHALLENGE TO DIVERSITY TRAINING

by Michael Mobley and Tamara Payne

Awareness of diversity in the workplace is on the rise, but so is a backlash to some of the issues it raises. In fact, negative reactions to diversity issues are widespread enough to make the headlines.

This *Newsweek* article is typical: "A Crisis of Shattered Dreams: Decades of Racial Progress Have Given Way to Growing Resentment on Both Sides of the Color Line." *U.S. News & World Report* says, "America's Youthful Bigots: Schools Are Experiencing a Startling Rise in Hateful Violence." And in a 1991 article, *Ebony* advises readers on "How To Survive the New Racism."

And journalist Susan Faludi's book, *Backlash: The Undeclared War Against American Women*, is a best-seller.

Battles over "political correctness"—a movement to change the way diverse groups are described and treated—have been reported at such colleges as Duke, the University of Connecticut, and the University of Michigan. Some of these encounters have led to lawsuits over free speech.

In Dubuque, Iowa, last year, there were 12 cross burnings.

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The Prodigy System national electronic bulletin board is reported to have carried anti-semitic messages.

David Duke, a former member of the Ku Klux Klan, made a serious bid to be governor of Louisiana.

And, finally, in Los Angeles, violent riots followed a not-guilty verdict in the trial of four white police officers who allegedly beat black motorist Rodney King.

The Perils of Backlash

Does a climate of backlash in the community create a challenge for organizations? We think so. Multiculturalism is the new reality in the workplace, yet in our own diversity training work we have found backlash subtly sabotaging efforts to produce team-oriented, flexible organizations.

Julie O'Mara, co-author with David Jamieson of *Managing Workforce 2000*, reports that diversity issues in organizations are "increasingly highly emotional."

Time reports on the term, "token black syndrome" or TBS, coined by diversity expert Price Cobbs. "TBS has become more widespread in recent years, as a white backlash against affirmative action has swept across the nation.... In the workplace, the prevailing view is that blacks are not required—and are unable—to meet the same standards for admission and promotion as whites."

John Leo, in a 1992 editorial in *U.S. News & World Report*, blames diversity consultants for creating divided cultural environments. He warns that organizations bringing in diversity consultants "think they are buying social peace, when they are actually more likely to be purchasing additional social conflict."

The biggest challenge facing diversity trainers today is how to handle backlash.

Fear Fuels the Fire

A good place to start is to review some of the arguments that people make to explain backlash. We have observed the following factors and perceptions in our work:

- Deep-seated biases and prejudices are emerging as a reaction to fast paced social change.
- Lack of jobs and increased competition for resources create what some people see as a threatening environment. (In a *USA Today* article, Len Nichols discusses "The New Racism: A Product of Economic Inequality.")
- Race and gender issues are used increasingly as a political football.
- Sensationalistic journalism can create scapegoats and highlight stereotypes.
- People tend to feel comfortable with people who are similar to them, and uncomfortable with those who are different.
- Some people see political correctness as a direct threat to first-amendment rights. (*Newsweek* quotes critics who have called it "the greatest danger to free speech since McCarthyism.")
- The political-correctness movement has created a legal and social mine field. Well-intentioned people feel that they must walk on eggshells around those who are different, and that if they make a mistake their good intentions will not be recognized.
- People confuse such terms as political correctness, diversity, multiculturalism, pluralism, equal employment opportunity, and affirmative action.
- Some people believe that a focus on multiculturalism will dissolve the unity of the United States. This is the thrust of *The Disuniting of America 1991*, by Arthur Schlesinger, Jr., and the topic of a *Time* cover story called "Whose America? A Growing Emphasis on the Nation's 'Multicultural' Heritage Exalts Racial and Ethnic Pride at the Expense of Social Cohesion."
- Affirmative action and EEO programs have been poorly implemented. Lawrence Drake II, vice president of KFC, writes in *Harvard Business Review*, "Unfortunately, over time, the application of affirmative action has been misused, and the term itself today has negative connotations." People who are not considered for a job or promotion because of affirmative action cry "reverse discrimination." Many people who are hired through affirmative action feel a stigma has been placed on them.
- Some whites and males are tired of being made to feel guilty in every discussion of diversity. They're tired of being cast as the oppressors. Glen Collins, writing in *Self* magazine, says. "Young and old, men are reacting against the Demonic White European Male syndrome, the perceived opinion that white males are responsible for every ill."

A Broader Definition

Looking back it is easy to see the seeds of backlash in the kind of affirmative action training that targeted white men's attitudes toward women and minorities. The intention of affirmative action training—to eradicate prejudices that kept women and minorities from succeeding once they were hired—was good. But people presumed that women and minorities would already know about biases and prejudices, so white men were the focus of the awareness training—training that was often conducted by women and minorities.

Many people still believe that the point of diversity training is to change white men. Last year the *San Francisco Examiner* ran a story titled, "Managing New Diversity: Consultants Help White, Male Corporate Leadership Respond to Changing Face of Workforce." The story describes one consultant: "Elsie Cross is a 62-year-old black woman who is in the business of changing white men. And a big business it is."

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Not surprisingly, training that appeared to "beat up" on men bred resentment, fear, and eventually backlash—and not just from white men.

"By focusing attention solely on the issues and concerns of minorities and women, those training programs were in effect discounting and devaluing those in the non-EEO and protected classes," says Barbara Walker, vice president of human resources at the University of Cincinnati. "This approach reinforced the 'us versus them' view of the work, which made everybody feel victimized and...disempowered."

The scope of diversity work may need to be broadened. Minorities and women as well as white males have to face the challenges of diversity. Being a minority or a woman doesn't ensure that a person will be effective in working with all types of differences.

In spite of the obvious problems with EEO, affirmative action, and diversity training, the training profession has learned a lot from it. We learned about the process of countering stereotypes and about the elements of a supportive work environment. Those lessons have implications beyond race and gender.

Many people argue now that the definition of diversity should be much broader than just race and gender. Authors Julie O'Mara and David Jamieson suggest that a definition of diversity should include such differences as age, educational background, and values. A more inclusive definition acknowledges that many types of differences affect human interaction at work. An engineer, for instance, probably works differently with people than a salesperson does.

Broadening the approach could have another effect. People who are tired of what they see as a "blame and guilt" approach may now find diversity training more palatable. And skills required to deal effectively with all types of diversity will result in better managers for all employees.

The downside of this approach is that some people may think that a broader definition of diversity could "water down" the training so much that the "real" issues would not be addressed. Champions of those issues might create their own backlash.

A broader definition of diversity necessitates a close examination of who is doing the diversity training and who should be doing it.

The common practice has been to use women and minorities as diversity trainers because of their stake in the issues. A more inclusive definition of diversity calls for a broader range of diversity among trainers. That may include the presence of more white males, as well as people over 60, people without college degrees, and people who have physical disabilities.

Unfortunately, the paradigm shift in diversity work may be happening more rapidly than the shift in the population of people who are conducting the training.

Any field that has been dominated by a particular sector of the population is bound to have evolved a culture. Those doing diversity work—mainly women and minorities—have a culture that might be hard for an "outsider" to break into. They are likely to be suspicious of the motives and sincerity of white males, as well as uncomfortable with a new approach or style.

But a lack of white males on the diversity team can send participants the wrong message—that diversity work is still only about women and minorities. In order to combat the fear and resentment that plagues diversity training now, training providers should be proactive in attracting, mentoring, and supporting nontraditional groups in doing diversity work.

The issue goes beyond race or gender. An incompetent or unqualified practitioner can create a backlash too. Being "gung-ho" about the issue is not good enough. A trainer may have good intentions but still may not possess the skill or expertise to launch an effective diversity program. See the box, "When Training Creates Backlash," for some common pitfalls.

Dealing with the backlash to diversity requires qualities beyond familiarity with diversity issues. Diversity trainers have to be capable of implementing successful training in the face of resistance. They need to have a handle on their own attitudes toward diversity so their feelings don't influence their training.

A trainer who feels frustrated by a white-dominated system, for example, might react in a hostile, flippant, or patronizing way to a white trainee's complaints about reverse discrimination. Such a reaction from the trainer reestablishes diversity as an "us vs. them" issue.

Preventing Backlash

In many cases, the same companies that have handled EEO and affirmative action issues badly will probably struggle with the complexities and potential pitfalls of diversity. All three issues are linked; failure to successfully manage any of the three can affect success in the others.

In a typical case, we encountered a trainee recently who maligned the affirmative action and diversity programs in her company. Positions for technical specialists had not been filled, she reported, because they were targeted for women; no "appropriate" candidates had come forward. Frustrated by the overload that the unfilled positions placed on her, the woman resented affirmative action and convinced many of her peers that working on diversity issues would do no good. Some of her colleagues took her words as evidence that diversity work was not helpful or wanted—even by those it was intended to help.

If an organization really values diversity, its affirmative action programs may not need to target particular jobs for women or minorities. To change an organization's mindset requires giving managers a broad, open definition of job requirements and the ways in which jobs can be accomplished. Managers need to recognize and understand their own biases, and must have the motivation and resources to create a truly diverse applicant pool.

Diversity does not happen by accident. The propensity in our society is for sameness and familiarity. In one

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When Training Creates Backlash

Unfortunately, diversity training programs themselves can cause backlash. This may happen when any of the following occurs:

- Trainers use their own psychological issues, such as trust or group affiliation, as templates for training.
- Trainers have political agendas or support particular interest groups.
- Training is not integrated into the organization's overall approach to diversity.
- Training is too brief, too late, or too reactive to a bad situation such as an EEO investigation or a lawsuit.
- Training is presented as remedial and trainees as people with problems.
- Training doesn't distinguish among the different meanings of valuing diversity, pluralism, EEO, affirmative action, and managing across cultures.
- Training doesn't make the link between stereotyping behavior and personal or organizational effectiveness.
- Training uses a limited definition of whose differences should be valued.
- Training is based on philosophy of political correctness.
- Training forces people to reveal their feelings about their co-workers or to do exercises that don't respect people's dignity or differences.
- Training doesn't respect individual styles of participation.
- Training is too shallow or too deep.
- Training pressures only one group to change.
- Resource material contains outdated views.
- Trainers don't model the philosophy or skills associated with valuing diversity.
- Training covers too few issues and doesn't engage participants individually.
- The curriculum is not adapted to trainees' needs or is not matched to the skills and experience of the trainer.
- Trainers are chosen because they represent or are advocates for a minority group.
- Trainers are not competent at facilitation and presentation, they have poor credibility with trainees, or they are known to be insensitive to diversity issues.
- The discussion of certain issues, such as reverse discrimination, is not allowed.

organization, an all-male work team admitted openly that it had disqualified a female job candidate on the grounds that she, as a woman, "wouldn't fit in." They assumed that only another person like themselves would fit in, to create the team cohesion that was critical to meeting the team's work goals.

Diversity work can get at the heart of such discriminatory assumption making.

We have heard from managers that the laws and programs surrounding EEO and affirmative action can create obstacles to valuing diversity. Chris Chen, of TRW's Space and Defense Sector, notes that "Today's interpretations of employment laws mitigate a firm's ability to recognize differences between employee groups. Corporations can't manage what they aren't supposed to notice."

EEO laws and policies generally mandate that companies cannot treat people unequally because of race, gender, and so on. For example, according to EEOC's Sex Discrimination Guidelines, "The principle of nondiscrimination requires that individuals be considered on the basis of individual capacities and not on the basis of any characteristics generally attributed to the group."

Diversity training typically proposes that managers should recognize differences and not treat everyone the same. Chen suggests that "companies that institute diversity training having the best of intentions still may find themselves guilty of discriminatory practices."

Does this paradox created by the seemingly conflicting goals of EEO and diversity present a real dilemma? We don't think so. Similar seemingly contradictory messages exist in our culture without causing problems. Doctors, for example, cannot refuse to treat patients on the grounds of their differences. Yet, they are expected to study and treat each patient differently.

We believe that diversity, EEO, and AA present no more complex a paradox. Organizations can avoid that source of backlash by being clear in their understanding of diversity and precise in their expectations of employee behavior.

Position Is Everything

Diversity programs have traditionally come out of HRD or training departments. That positioning leads organizations to approach the programs in several ways. Some see the work as an intervention—a way of managing the legal risks associated with a diverse workforce. Others look at diversity programs as the source of a skill set that people can recall and apply as needed. Still other organizations regard diversity work as an attempt to be socially responsible.

Where diversity work is positioned can determine a program's potential to create or mitigate backlash. Positioning affects the program's ability to secure resources,

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command attention, and focus organizational efforts.

Support for diversity is more than just "doing the right thing." Many organizations see it as a way to do business in a world where valuing differences has replaced assimilating as a goal of many groups and individuals. Roosevelt Thomas, Jr., of the American Institute for Managing Diversity, writes in *Harvard Business Review* that "more and more employees, including white males, are coming to the workplace inclined to celebrate their differences and less willing to adapt blindly. They want to keep the traits that are unique to themselves and not unnecessarily compromise who they are."

Many organizations are redefining and repositioning the role of diversity. They are taking it into account in business strategies, long-range planning, and management approaches. This repositioning is a positive move that may lessen backlash to diversity training.

Give Your Training a Chance

Your diversity training has a better chance of not provoking backlash if you take the following steps:

Get management aboard before a diversity training program is implemented. Getting managers to model a commitment to diversity may require special training for them.

Release a statement from top managers showing their commitment. A visible show of commitment, such as having a top manager kick off the training, also helps.

Involve employees before the design of the program. Assess people's feelings about diversity. Determine which issues the employees believe are the important ones. Acknowledge backlash and its causes.

This achieves two things. First, you have identified the issues and attitudes of your audience. Second, your audience is more likely to feel involved and vested in the process early on. Both increase your chances of designing a successful program.

Work from an inclusive definition of diversity. A broad definition of diversity invites participation and lowers resistance. It allows people to move beyond a particular political agenda. It empowers more people to do the work and avoids contradictions later on.

Use well-qualified professionals to do the diversity training. Whether your diversity trainers are internal or external, make sure they are competent facilitators who have a good information base, reflect diversity (including white males), and make good role models. Make sure they understand the dynamics of backlash. Do not assume that any trainer or consultant is ready for diversity training.

Acknowledge resistance. Do not downplay or ignore it. If you do, it can trip you up or sabotage the outcomes of training later on. Allow people to respond and express their feelings, including hostility, skepticism, and enthusiasm. Avoid becoming defensive. A good trainer is adept enough to use the resistance as a vehicle for learning.

Let experience be the teacher. Create opportunities for experiential learning; follow up with reflection and discussion. You'll empower participants to direct their learning to where it is most needed. If they are allowed to draw their own conclusions, participants are more likely to retain what they've learned. Experiential activities help trainees become vested in the success of the program.

Affirm the value of each person's experience and viewpoint. Acknowledge good intentions even while pointing out behaviors that create problems.

Value sameness. Remember that experiences of sameness and difference both play an important part in identity development. Do not fall into the trap of devaluing sameness in an attempt to value diversity.

Put an end to the PC police. Encouraging people to pay lip service to a politically correct agenda does not qualify as effective diversity work. Such an approach only increases cynicism and backlash toward diversity work, and creates distrust between groups.

Be clear on business connections. Make sure that real-time applications to the workplace are an integral part of the training program. Be prepared to address corporate culture issues. Communicate management's expectations.

Laugh, smile, and enjoy. Diversity training is serious work. Having fun can restore balance and energize a group. Laughter can say, "We all make blunders; it's okay as long as we learn to do better the next time." Having fun can reduce tension and help give diversity a good reputation.

Follow up. Support and reward those who incorporate a diversity mindset into their jobs and who use diversity to achieve organizational goals. Have trainees contract for short- and long-term "next steps" that are measurable.

Co-facilitate. Whenever possible, co-facilitate a group with someone who is visibly different from you. This increases the chances for dealing with resistance and avoiding backlash. While one trainer engages participants, the other can objectively assess the response and provide intervention as needed. And two facilitators can model effective behavior related to differences.

Create an open atmosphere. Make sure participants know it is OK to discuss topics that people normally shy away from. Such issues might include reverse discrimination or frustration with EEO—or even a discussion with a person in a wheelchair about what it is like to be paralyzed.

Keep up with new developments in diversity training. Do not assume that a successful program designed two years ago is addressing current issues. Outdated programs can cause backlash.

Integrate special topics. If you are delivering programs on special-interest topics (for example, Hispanic heritage or gay awareness) be sure they are integrated into

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an overall approach to diversity. Backlash comes from groups that do not feel included when a single topic becomes the entire program.

Final Challenges

The focus on differences will continue to grow as demographic changes bring even more diversity into the workforce and the marketplace. As one group emphasizes its unique background or heritage, others will want to articulate their own uniqueness. And more training professionals will face the challenge of dealing with backlash.

Diversity work also involves helping organizations tap the value and diversity in the labor pool, where the least-used groups of people are experiencing the most growth. This might include outreach programs to schools and communities, as well as other efforts that start well before an employee is hired.

Organizations that learn to use diversity as an asset will stride ahead of those that don't. The payoff will be in productivity (greater output), quality (fewer errors), flexibility (faster response to change), and innovation (more creativity).

Organizations that don't learn to respect, value, and utilize individual differences (including differences in sex, race, age, education, function, and other areas) will continue to be socked with discrimination and harassment lawsuits, low morale, high recruitment costs, high turnover, and a lack of creativity.

Organizations that have experienced sexual harassment or discrimination lawsuits have a special need to create or reestablish trust—a sense of "we." Otherwise, the atmosphere created by legal proceedings can cause backlash and disrupt productivity for years.

The stakes are also high for organizations that are already doing diversity work. Many existing diversity programs may foster backlash. At the least, that backlash can eventually kill a program. It can even lead to organizational regression in relation to the goals that the diversity work was set up to address.

Conscious awareness and management of backlash is critical. The challenges of diversity and backlash are not likely to go away by themselves. Unless organizations take action now, their futures may be threatened.

TDY 93/94 IN BRIEF

DIVERSITY VIDEOS

Source: "Videoing Diversity," by David C. Wigglesworth, *Training & Development*, December 1992, pp. 53-59

As workforce diversity has emerged as a key issue, many videos have been produced to help trainers deal with this sensitive and complex area of human relations. This article is a review of some of these videos, including:

- The *Valuing Diversity* series by Griggs Productions Inc.,
- *Bridges: Skills for Managing a Diverse Workforce*, a series by BNA Communications,
- *The Mosaic Workplace*, a series of 10 videos by Films for the Humanities and Sciences,
- Coronet/MTI Films and Videos' packaged workshop and leader's guide on *The Multicultural Workplace*,
- CRM Films' *The Workforce Diversity Series*,
- Crisp Inc.'s *Working Together: Managing Cultural Diversity*,
- *Bridging Cultural Barriers: Managing Ethnic Diversity in the Workplace*, from Barr Films,
- *Beyond Diversity: Managing Interpersonal Differences*, from Menninger Management Institute, and
- *The Power of Diversity*, by MDG Inc. (AN272)

REVIEWS OF A DIVERSITY TRAINING PROGRAM

Source: "Four Reviews of the *Bridges* Training Program from Diverse Perspectives," by William W. Oyler, *et al.*, *Human Resource Development Quarterly*, Spring 1992, pp. 97-108

This article contains 4 reviews from various perspectives of the training program entitled *Bridges: Skills for Managing a Diverse Workforce*, by Jeffrey Goldstein and Marjorie Leopold (Rockville, MD: BNA Communications, Inc., 1989). The program consists of videos and supportive materials, and it is divided into 8 modules (about 2 hours each in length), which may be taught in any sequence. The subjects tackled in each are:

1. "A Question of Honor" — the need for feedback to build better cross-cultural understanding,
2. "That Kind of Woman" — stereotyping a white female manager,
3. "The Man in the Middle" — the belief that many African-Americans get their positions due to quotas rather than qualifications,
4. "The Choice I Made" — ethnic identity vs. organizational culture,
5. "Come One, Come All" — inclusion and exclusion among different cultural groups,
6. "The Other Side of the Coin" — managing intercultural conflict,

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7. "Drawing the Line" — culture and gender stereotypes between Hispanics and Anglos, and
8. "You Know What I Mean" — intercultural communication barriers.

A white male reviewer generally applauds the series, though he notes a limited scope of diversity examples. A Jewish female was pleased to see women often portrayed as managers in the series. A gay white male reviewer was outraged that sexual orientation was not even hinted at. An African-American female reviewer concluded, "Although very real issues were presented, many of the recommended strategies for dealing with those issues appeared to be based on the premise that corporate America, as we know it today, will not change. This, clearly, is wrong." (AN273)

READING ALOUD TO BRING ABOUT CHANGE

Source: "A Novel Approach to Diversity," by Cynthia F. Barnum, *HRMagazine*, May 1992, pp. 69-73

Reading aloud to produce change? The author cites an article by Leslie Brokaw, "Books That Transform Companies," in *INC. Magazine* (July 1991), that described how Web Converting Co. was using group reading of books on productivity to raise productivity. Every Thursday at 4 p.m., machine operators and production workers left their posts for the meeting room where they read a book aloud on company time. Some of the books read included Max DePree's *Leadership Is an Art* and Byham and Cox's *Zapp! The Lightning of Empowerment*. Employees (1) are acquiring new vocabularies as well as a common language, (2) are developing better relationships, (3) are communicating about business issues—and (4) production is up 40%. The author believes the approach can be applied to workforce diversity issues, and she provides brief reviews of a sentence or two for 31 books on: Asian Americans, Hispanic Americans, physically challenged persons, gender issues, Arab Americans and Jewish Americans, Europeans, and Race and African Americans. (AN274)

A CROSS-CULTURAL SIMULATION

Source: "Upside Down: A Cross-Cultural Experiential Exercise," by Joao S. Neves and Rajib N. Sanyal, *Simulation & Gaming*, September 1992, pp. 370-375

The objective of the "Upside Down" simulation/game is "to prepare participants to confront, understand, and effectively overcome culture shock and cultural differences." Participants (8-20) are placed in two groups. After learning the key traits of a specific culture, they then interact with the other group to accomplish a defined mission. The "Utopia" group is friendly, shakes hands in conversing, mingles with people of their own gender, and tells riddles all the time (for which they give or receive tokens). The "El Dorado" group is polite, maintains a physical distance, and gives short and precise questions and answers (for which they give or receive tokens). For 10 minutes, each group interacts separately to become familiar with its rules and values. Next, each group is given some stereotypical information about the other group. The two groups then come together for 10 minutes with a mission of gathering information from each other and giving or receiving tokens. During the debriefing phase, the players are evaluated by how well each group accomplished its mission and by the number of tokens each participant accumulated. The authors provide several questions for participants to discuss. Upside Down is very flexible, according to the authors, and can be used for any situation in which two different groups interact, including (1) international business, (2) rich and poor, and (3) differing political groups. (AN275)

E-3. TRAINING FOR EQUAL EMPLOYMENT OPPORTUNITY

PREVENTING SEXUAL HARASSMENT IN THE WORKPLACE

by Rebecca A. Thacker

Many organizations have sexual harassment policies. But the problem continues to plague workplaces.

Sexual harassment in the workplace can lead to increases in turnover, absenteeism, and lost productivity. An extensive study of federal employees by the U.S. Merit Systems Protection Board found that sexual harassment cost the federal government $267 million in a two-year period.

What Is Sexual Harassment?

Under Equal Employment Opportunity Commission guidelines established in 1980 and unanimously confirmed by the Supreme Court in 1986, sexual harassment includes physical, verbal, and "environmental" abuse. The law recognizes two general forms of harassment—quid pro quo and hostile work environment.

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A classic example of quid pro quo harassment is that of an employer who threatens an employee with dismissal unless he or she performs a sexual act. Hostile-environment harassment may include touching, sexual joking, and leering.

Sexual harassment policies at most organizations typically explain these procedures:

- What to do if you are a target of sexual harassment
- How to register a complaint
- To whom to report a complaint
- What happens after you register a complaint
- How long it takes before an investigation begins
- Who conducts an investigation
- How an investigation is conducted
- How the investigation results are disseminated
- What disciplinary actions to take.

Many organizations will not investigate a sexual harassment charge until the employee files an internal complaint with a manager or other designated person.

That approach is often ineffective in eliminating the problem. In effect, it places the burden on the victims to activate and enact their companies' harassment policies. Sexual harassment continues because many of its targets don't report incidents.

Why Targets Don't Report

People who are targets of sexual harassment usually respond in one of two ways.

- They react actively and complain
- They react passively and keep silent.

Anecdotal evidence suggests that many sexual harassment victims are reluctant to file complaints. They're afraid that their work environments may become unpleasant, that they'll suffer retaliation, that they won't be believed, or that they themselves will be blamed.

For instance, 52 percent of the female respondents and 42 percent of the male respondents to the 1987 U.S. Merit Systems Protection Board survey reported that they "ignored" sexual harassment. Four percent of the women and 7 percent of the men reported that they simply "went along" with it.

Most people who have been accused of sexual harassment are men. Most people who have been the targets of sexual harassment are women. Research suggests that in the workplace, women are more likely than men to accept imbalances of power that favor males. And women are more likely to acquiesce to those who are in higher positions of authority.

Some women report feeling guilty about being the targets of sexual harassment; they may feel that they're to blame. Their guilt further inhibits them from taking action against their harassers.

Targets who react passively to sexual harassment inadvertently convey the message that the behavior is acceptable. In some cases, supervisors may misinterpret that message to mean that sexual harassment did not occur. In such an environment, an organization tends to overlook a lot of inappropriate sexually oriented activity.

Me Tarzan, You Jane

Another reason many people are reluctant to report sexual harassment may be due to socialization. Males are socialized to be the initiators in sexual relationships. Females are socialized to be the receptors. And people often bring conditioned sex roles into the workplace.

Socialization tends to reinforce the perception of males as pursuers. In a sense, women violate cultural norms when they express anger or voice complaints against men who make sexual overtures.

Prevention Training

Failure to report sexual harassment undermines even the most effective policies. Organizations must take steps to make employees unafraid to complain about unwelcome behavior. One way to accomplish that is through sexual harassment prevention training.

Prevention training should focus on target response through role play and discussion. That approach gets trainees highly involved. Feedback is immediate.

Participants act out, observe, and discuss the two different responses of harassment victims—passive (ignoring or complying) and active (refusing or complaining).

In the first session, the trainer should describe and explain passive and active responses and how socialization influences each.

Prevention training should provide opportunities for participants to observe others exhibit both passive and active responses. Participants should discuss the possible consequences of the two different types of responses. Trainees who have experienced sexual harassment in the past should be encouraged to examine their responses and their perceptions about those responses.

Rationally talking about target responses often leads to a more open discussion on what is usually considered a painful and embarrassing topic.

During discussion, participants may learn that they share the same fears about confronting sexual harassers. Prevention training should encourage employees to complain when they believe they are being sexually harassed. During training, participants should practice making complaints.

How to Tell if It's Harassment

Generally, training videotapes on sexual harassment provide examples of incidents that constitute sexual harassment—both quid pro quo and hostile work environment.

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Is Sexual Harassment a Women's Issue?

by Haldee Allerton, associate editor, *Training & Development*

It seems that in most of the sexual harassment cases we've read about the harasser is a man and the target is a woman. How accurate is that perception?

"That's true most of the time," says Susan Webb, editor of *The Webb Report*, a monthly newsletter on sexual harassment in the workplace. In many cases, the harasser is in a position of authority, such as that of a supervisor.

"And supervisors still tend to be men," says Webb.

Webb concedes that we may begin to hear about more incidents of same gender and female/male harassment. "But we're not there yet," she says. People are just beginning to report male/female sexual harassment.

Webb, a consultant who specializes in human relations, has been working since 1981 on issues related to sexual harassment. She says that she created *The Webb Report* to fill a need.

"I'd go into organizations to give sexual harassment training and then I'd go away," says Webb. She sought a way to provide ongoing support for her training. She came up with the idea of a newsletter because of the lack of any similar vehicle to cover harassment issues.

Webb says that at first she worried that she wouldn't have enough material on sexual harassment to fill the pages. "Now the problem is what to leave out" she says.

Webb is president of Pacific Resource Development Group in Seattle. She is the author of several books and numerous articles on sexual harassment.

Tapes provide trainees with an opportunity to observe sexual harassment; they may help employees to learn how to recognize it. The scenarios tend to focus more on the actions of the harasser than on those of the target.

In post-tape discussion, the trainer should raise the following questions:

- In the scenario, what did the target do to discourage the harasser? Was it effective?
- What should the target have done? Did the target inadvertently encourage the harasser by his or her response?

What Would You Do?

In a paper-and-pencil exercise, the trainer should ask participants this question: "If an employee comes to you and claims that he or she has been sexually harassed, what is the most effective action you can tell him or her to take in order to stop the harassment?"

Trainees may choose from the following answers:

- Ignore the behavior.
- Go along with the behavior.
- Tell the harasser to stop.
- Request an investigation by someone in the organization.
- Request an investigation by an outside agency.
- File a grievance.
- File a discrimination complaint or lawsuit.

One goal of the exercise is to get trainees to think about how different responses may be viewed by others in the workplace. For example, research suggests that many supervisors consider the last five responses to be more effective than the first two.

The exercise further helps participants to identify effective responses. And it encourages them to reevaluate the effectiveness of their own past responses to sexual harassment.

Role Play

Role play provides trainees with an opportunity to act out different responses to sexual harassment and to watch others do the same. Transfer of training to the workplace is more likely to occur when role play takes place in conditions that closely resemble the work environment.

During role play, trainees should assume the roles of both harasser and target. In such exercises, many employees realize how a harassment victim's passive response may encourage further harassment.

Employees may become more comfortable with reporting sexual harassment after they've practiced active responses in the nonthreatening atmosphere of training. And by observing others in role play, they get a chance to view a "target's" response from the "harasser's" perspective. If they later confront sexual harassment on the job, they may be better prepared to handle the situation.

To Whom Do I Complain?

At this stage of prevention training, it may be a good idea to introduce to trainees the person who handles sexual harassment complaints in the organization.

He or she should explain the investigation process and reinforce the organization's commitment to investigating complaints. A sympathetic, serious, and warm manner is

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vital for making employees feel comfortable about reporting harassment.

But the most tangible evidence of an organization's commitment is overt, prompt investigation of sexual harassment complaints. Swift action and an open-door policy show that the organization provides a safety net for employees who take the plunge.

Such action ensures employees that they'll be treated with respect and dignity if they come forward. The person who handles complaints is the appropriate person to deliver the messsage.

The Road to Harassment-Free Workplaces

To eradicate sexual harassment from the workplace, policymakers must recognize the importance of prevention training. Along with sexual harassment policies, prevention training attacks the problem before incidents occur.

Prevention training may also help reduce the number of sexual harassment lawsuits. According to Du Pont, the company has handled more cases internally and fewer in the courts since it began its harassment training program, "A Matter of Respect."

Such a program can provide an enlightened approach to eliminating sexual harassment from the workplace.

Additional Reading

Here are several books on sexual harassment at work. They tend to focus on harassment toward women, but it can be directed against men as well.

- *Women and Work: A Psychological Perspective*, by Veronica Nieva and Barbara Gutek. Westport, CT: Greenwood, 1982.
- *Backlash: The Undeclared War Against American Women*, by Susan Faludi. New York, NY: Crown Publication Group, 1991.
- *The Best Companies for Women*, by Baila Zeitz and Lorraine Dusky. New York, NY: Simon & Schuster, 1988.
- *Step Forward: Sexual Harassment in the Workplace: What You Need To Know*, by Susan Webb. Seattle, WA: Pacific Resource, 1991.
- *Sexual Harassment: Investigator's Manual*, by Susan Webb. Seattle, WA: Pacific Resource, 1991.

SEXUAL HARASSMENT: TRAINING FUNCTIONS MUST BREATHE NEW LIFE INTO OLD POLICIES

by Christopher Busse

Amid the furor over allegations against then Supreme Court nominee Clarence Thomas, a Maine law quietly went into effect requiring employers to educate workers about sexual harassment. And though the legislation—which became law in early October 1991 and is considered the first of its kind in the nation—carries no fines or penalties for businesses that fail to comply, it does represent a growing and perhaps late realization by government that American businesses have to do more to address the issue. Other states are expected to follow Maine's lead.

Many companies, however, have beat their local officials to the punch (see graphic on page 7.150). Clearer guidelines from the Equal Employment Opportunity Commission (EEOC), an increasingly diverse workforce, executive commitment to providing harassment-free work environments, and good old-fashioned common sense are driving forces behind a trend toward better and more open forums in America's corporate classrooms about sexual harassment. Gone are the days when it was enough to simply tell trainees what the law and company policy said. With the understanding that the issue of sexual harassment revolves around behavior, training executives know part of the onus will fall to them for creating the kind of awareness among all employees necessary to both change behaviors and teach new ones.

Creating an Ideal Workplace

"While sexual harassment is an issue that every company must address from a legal standpoint, training has a role because of its skill in dealing with workplace behaviors," says Catherine Reinis, assistant vice president, Teacher's Insurance and Annuity Association-College Retirement Equity Fund (TIAA-CREF), New York.

Prior to 1991, Reinis says, her company approached sexual harassment training the way many companies still do: TIAA-CREF's long-standing policy of no harassment was stated, and employees were expected to follow the mandate. In early 1991, however, the policy was overhauled to eliminate the gray areas and to better educate employees about their individual roles in creating a workplace free of harassment.

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Reinis first worked with the company's attorney and an internal human resources council to design a new sexual harassment training program. All TIAA-CREF managers, supervisors, and officers were trained first and were expected to bring the training back to their work groups. During the course of the three-hour program, the group was provided with legal definitions, background information from the general media, practical examples of how to handle certain situations, and common misconceptions about sexual harassment. TIAA-CREF also used two scenarios from a video by the Bureau of National Affairs Communications Inc., (301-948-0540), called *A Costly Proposition*, as discussion-starters in the training. An ombudsman process was also established to help managers handle complaints. Two men and two women from different units across the company provide special assistance to managers on an individual, case-by-case basis.

The next phase brought the message back to the company's general population. A script was provided to managers by the training department from which they were free to paraphrase, but which Reinis says "clearly stated what was expected of all employees. For the first time, our policy was clear, and employees understood it. That is a key consideration all organizations address: Is the policy clear?"

The program was mandatory for all employees, Reinis says, and while it may have scared some people coming in, it was very well received. "It's important the message come from a supervisor that employees recognize as someone who will hold them accountable for the policy, but who will also set the example for the unit," she says. "In that respect, it's easy for employees to see that it's everyone's responsibility to create this kind of environment."

Giving Employees the Tools for Change at Digital Equipment

Until Digital Equipment Corp.'s commitment to a harassment-free work environment in the early 1980s, sexual harassment training was not considered a high priority, says Chet Garron, the equal employment opportunity/affirmative action trainer for the Maynard, MA-based company. "The training went only to managers and discussed only what the law said people could and could not do," he says.

But, as one piece of a much broader workplace diversity philosophy, companywide sexual harassment training at Digital has raised employee awareness to the point that no formal harassment charges have been made since the full concentration of the training began in 1983. The reason? "Managers are taking complaints more seriously, and the parties involved are doing more internal resolution of complaints before they become formal charges," Garron says. "Employees know they can get internal advice. Knowing they will be heard internally, not laughed off, makes a big difference."

Like TIAA-CREF, Digital trains managers to take the sexual harassment message back to employees. Garron delivered the one-day program to Digital facilities around the country when the campaign began: first to management, then to the general population. But many managers are now working with Garron to become facilitators themselves to bring the training back to the line, giving the message more credibility and urgency. Though corporate policy doesn't mandate the training, Garron says some managers who elect to take the training later require their employees to attend a session as well. About 1,300 employees attended the workshop last year. "We're not making experts out of anybody," he says. "But we are raising awareness and giving people the tools to change their own behavior and to intervene if other people need that same help."

Even without mandatory training, Digital has made it clear that the policy is for everyone, Garron says. The company has terminated people up to the senior executive level for violating the sexual harassment policy. And the harassment program has sparked a proactive response from company employees. "People are bringing issues to the table before they get out of hand, and managers are responding by calling us. It's critical for training to establish the feeling that victims will be heard and that action will be taken."

DuPont Provides Help For Victims and Offenders Alike

At DuPont, Wilmington, DE, sexual harassment awareness training actually grew out of the company's rape prevention course. "During the open discussions in those workshops, women came to realize there was sexual harassment going on that stopped well short of rape, but that was just as debilitating," says Mary Lou Arey, DuPont's manager of organizational planning and development. "We had conducted various courses about harassment and the law in the past, but we really saw a need for a program that talked to all employees about behaviors that can lead to or destroy a harassment-free work environment.

"Sexual harassment *is* a training issue. People have to understand ground rules and behaviors, and training is a natural place for those to be defined. At the same time, organizations have to put vehicles in place for people to come forward and get support. Companies also have to be willing to terminate guilty parties *and* find mechanisms to rehabilitate offenders," she says.

The three-hour workshop that emerged from that need is called *A Matter of Respect*. Its message is a familiar one: every employee has a role in making sure the company's environment is harassment-free. "If companies are going to say they value diversity and differences in people, that also means everyone has to be willing to know the people they're working with, understand what it means to be respected, and know where individual boundaries lie," Arey says. The workshop is mandatory for every DuPont employee, and Arey estimates that between 60,000 and 70,000 people have taken it to date. How is the training being measured? More people are coming forward and talking things out with those around

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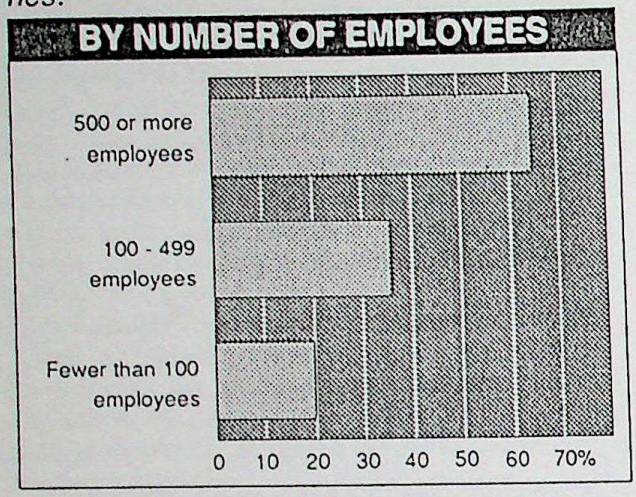
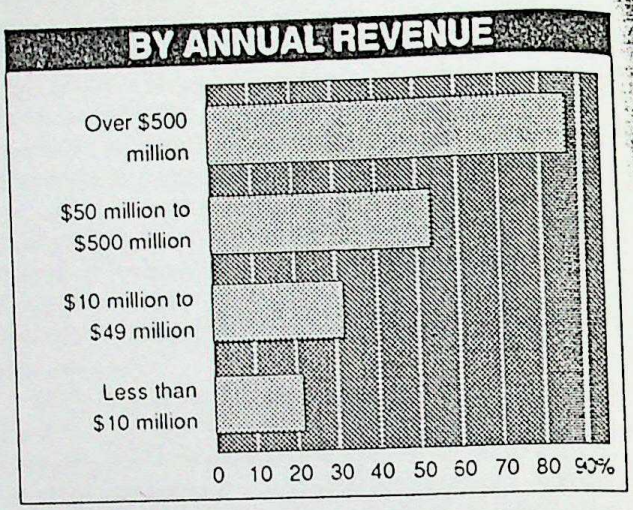
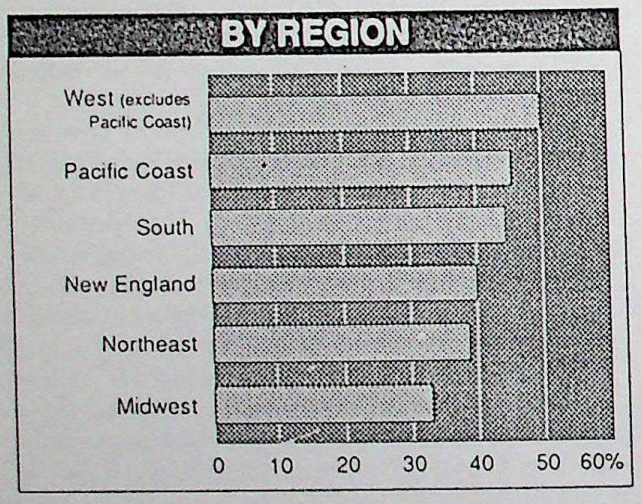
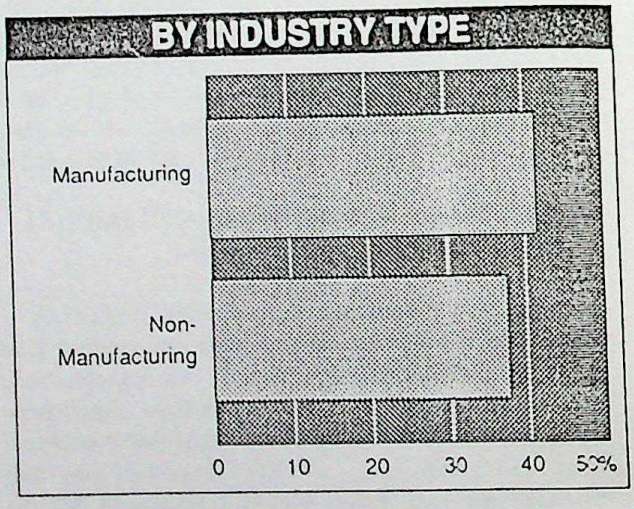
Raising Awareness

In a survey of 495 companies, 40.2% said they had provided training about sexual harassment in the workplace. Here is the percentage offering such training in each of the following categories:









Source: American Management Association

them, rather than waiting for a situation to become unsalvageable.

"We used to simply talk about laws and ramifications," Arey says. "But when you take that approach, people tend to deal with the issue by using avoidance; men will actually start to avoid women in the workplace, and all you've done is foster alienation. We designed the program to get the feelings of both sexes out in the open and get people comfortable with discussing those feelings. There's no training program that covers every thing, so the key is to get people talking" she says.

Investing in People

Beyond the course itself, DuPont has taken steps to provide additional help for victims and offenders. The company created a 24-hour hotline, internally staffed by carefully trained counselors, that any employee may use at any time to receive coaching if a sexual harassment scenario arises. One staff member carries the hotline's special beeper for a day at a time, Arey says, and though calls aren't logged, it may be used five times a day, 10 times a day, or not at all. "The point is it's there, and people know it's a resource they can use," she says.

Offenders also receive help at DuPont. "In the past," Arey says, "the tendency was to relocate the victim, put a letter in the offender's file, and hope it was over. The reality is that unless some work is done to show the offender the effects of his behavior on other people, the behavior will continue." Though the company will fire employees for violation of its sexual harassment policy, an employee assistance program is also in place to help offenders if termination is not recommended. "No one wins in a harassment situation," Arey says. "But if you're investing in people, you have an obligation to help everyone involved." The rehabilitation program is designed to help offenders "unlearn" behaviors inappropriate in the workplace and make them more productive employees.

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TRAINING FOR ADA COMPLIANCE

Source: "Complying with New Law Poses Special Training Challenges," *Training Directors' Forum Newsletter*, May 1992, p. 6

With the Americans with Disabilities Act (ADA) taking effect on July 26, many trainers have new tasks. The author describes programs at Aramco Services Co. of Houston, Texas. A task force was established with the mandate to make the company a model for complying with the spirit of the law. Beyond the physical modifications required for buildings, HRD involvement includes:

- Sensitivity training (The author mentions *Ramp of Hope*, available free from Action Technology (216/329-6448) which increases sensitivity to wheelchair users.)
- The review of company policies and forms to make sure the language is not discriminatory
- Job descriptions and interview evaluation forms that specify and quantify the types of work required, such as lifting, travel, etc.
- Training supplied to interviewers in proper applicant evaluation and interviewing techniques. (AN276)

E-4. MORE TRAINING FOR SOCIAL RESPONSIBILITY

ENVIRONMENTAL TRAINING: IT'S GOOD BUSINESS

by M.E. Marshall and David W. Mayer

The number of environmental regulations at the federal, state, and local levels is rapidly increasing, making environmental training a sound business practice. Such training helps employees keep environmental issues in mind as they cope with daily business challenges.

Upper management has the most to gain from environmental training and the most to lose from a lack of it. Environmental training can reduce overall costs, lessen the likelihood of prosecution and fines, and improve the company's public image by developing more environmentally aware employees.

The Costs of Environmental Ignorance

Many companies have realized that training employees in environmental regulations can help them avoid potential liabilities. For example, financial institutions often train their loan officers to interpret environmental audits and site assessments used in property transactions. These audits are typically required to protect the lender against acquiring properties with environmental problems. By knowing what to look for in the engineer's report, the banker can better protect the bank's interest.

Manufacturers are also realizing that properly trained environmentally aware employees are the key to making correct day-to-day decisions. Many manufacturing firms are affected by several major environmental laws, such as the Resource Conservation and Recovery Act (RCRA) Toxic Substances Control Act (TSCA), the Clean Air Act, and the Clean Water Act. Basic training about how these laws influence daily business operations can help employees avoid making potentially libelous decisions.

Environmental offenders are being singled out for substantial financial penalties, as EPA officials set new enforcement records. In 1990, the agency successfully undertook 1,560 enforcement actions, collecting $61.3 million in penalties. These fines represent a 74 percent increase over the 1989 levels.

Of even greater concern for senior management is the trend by regulators to pursue criminal charges. Training employees to avoid environmental violations will reduce the likelihood of these actions as well. The EPA is using criminal enforcement more and more to promote compliance, for it is the agency's strongest weapon. In 1990, criminal fines totaled $5.5 million, and a total of 62 years of incarceration were imposed on managers. These numbers are expected to grow in the coming years.

Again, the best defense against these actions is a knowledgeable, environmentally aware workforce. Environmental training can reduce the possibility that an employee will make a costly decision because of an incomplete understanding of environmental regulations. Employees who are confident in their ability to work within the regulatory framework can make more reasonable, cost-effective choices. They can also better position the company to deal with the regulators and inspectors should this become necessary.

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M.E. Marshall is president of Law Associates, and David W. Mayer is the director of Law Companies Environmental Training Center, both in Kennesaw, GA.
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Training for a "Green" Corporate Image

Corporate public images are often formed in response to the daily individual decisions of employees. Environmentally sound choices through proper training can lead to a more positive public image for the company, which in turn can enhance sales, increase stock prices, and open access to public capital markets. In contrast, a mediocre environmental image may adversely affect the company's success, thus requiring a large investment of money and time to change a poor public impression.

Corporate environmental awareness can have other cost advantages. Environmentally aware companies find that staying on top of recent regulations and emerging trends provides a marketing advantage by leading to greater consumer acceptance of their products and services. Nearly 80 percent of consumers surveyed indicated they chose or rejected a product based on its environmental soundness. Product packaging, corporate environmental policies, and use of recycled materials were cited by consumers as reasons they frequently chose or rejected products.

Training employees to seek out opportunities to capitalize on this trend can result in big dividends. For example, consider the fast-food industry. The McDonald's Corporation, having recently formed an alliance with the Environmental Defense Fund, has implemented an environmental recycling and waste minimization program. McDonald's now heavily advertises this program and uses it as a showcase. This and other environmental programs spawned by the fast-food industry have resulted from management practices that promote environmental awareness, such as employee training programs.

It is important to note that these types of environmental programs have not been mandated by the federal government. In most cases, such regulations are years away from being implemented at the state and local level. However, companies have found it advantageous to stay ahead of the regulations and respond to current public attitudes toward the environment. Thus, companies are initiating training programs to increase environmental awareness with or without regulatory requirements.

Many organizations offer training overviews of environmental laws and regulations to both improve public image and boost employee morale. These programs help personnel at all levels to gain a perspective on the myriad of state, federal, and local laws that affect them. Employers are often seen in a better light by trained employees, who can see their environmental training implemented in daily practice.

In contrast, when companies take the "head in the sand" approach, they find themselves playing a reactive rather than a proactive role. In such a case, a company may be viewed as "uncaring" by both employees and the general public. The cost of these perceptions cannot always be quantified, but the bottom line will most assuredly be affected.

Required Training

A significant number of training courses are mandated by OSHA, the EPA, and other state and federal agencies. The Table illustrates a sample of the training required by OSHA and the EPA. Moreover, employers should outline, in job descriptions, local regulations that require training for specific positions, and they should provide appropriate training programs to cover local issues.

Some companies are going beyond the minimum requirements to emphasize their corporate commitment. For example, OSHA requires that all employees who work at sites containing hazardous waste complete 40 hours of health and safety training. However, a number of companies train employees who are not expected to come into contact with hazardous materials. This approach underscores the need for health and safety programs and makes all employees conscious of the need for safe work practices.

Organization of a Company's Training Program

To be effective, a company's training program needs to be carefully organized. A training program coordinator should be appointed at the corporate level to be responsible for overseeing, tracking, recommending, and implementing training programs. For many firms, this person is a veteran employee with several years of experience in the human resources department.

Recordkeeping is critical in meeting the regulatory requirements listed above. When OSHA, EPA, or other state and federal training certificates expire, employees become unable to work effectively. Therefore, a major focus of the training coordinator's activities is to maintain training records for all company employees.

The training coordinator should also collect and distribute information regarding available training. This should not only include environmental training discussed above, but also other important courses the company may deem necessary. For example, many companies offer technical writing courses and seminars in stress management.

Some companies have developed internal training programs as a way to cut costs and better serve employees. Specialized, company-specific training courses are often best taught by internal personnel. However, many of the environmental training programs discussed above are best provided by outside organizations, such as universities or technical training companies, who are better able to provide a fresh or more objective perspective.

A complete training plan should be developed for every employee within a company. This includes administrative, technical, management, and all other personnel. In general, the type of training employees need depends on their background, experience, and previous training. Engineers and technicians require comprehensive technical training, but other employees may need training in computer systems.

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Table 1
Employee Training Requirements for Selected Federal Environmental, Health, and Safety Regulations

Government Agency/Regulations	*Course Title/Content*	*Attendees*
A. OSHA		
1. Hazardous Waste Operations and Emergency Response (29 CFR 1910.120)	40-hour/24-hour Health and Safety Training for Hazardous Waste Operations	Equipment operators, laborers, and other clean-up or assessment workers at hazardous waste sites covered under CERCLA or RCRA
	8-Hour Annual Refresher Health and Safety Training for Hazardous Waste Operations	Equipment operators, laborers, and other clean-up or assessment workers at hazardous waste sites covered under CERCLA or RCRA
	8-Hour Supervisor Health and Safety Training for Hazardous Waste Operations	Supervisors at hazardous waste sites
	24-Hour Health and Safety Training for Treatment, Storage, and Disposal (TSD) Operations	Workers involved with hazardous wastes at TSD facilities
	24-Hour Emergency Response Health and Safety Training	Emergency responders, HAZMAT team members, and other workers responding to hazardous substance releases
2. Hazard Communication (29 CFR 1910.1200 and 29 CFR 1926.59)	Hazard Communication (Employee "Right-to-Know") Information and Training	Workers handling hazardous chemicals in all types of industries (general, construction, services, trade, etc.)
3. Respiratory Protection (29 CFR 1910.134)	Respirator Training	Workers who wear respirators
4. Noise (29 CFR 1910.95)	Hearing Conservation Training	Workers who are exposed to noise
5. Air Contaminants (29 CFR 1910.1001-1048)	Health Hazard Training for specific OSHA regulated substances	Workers who are exposed to specific chemical substances (asbestos, lead, formaldehyde, benzene, arsenic, etc.)
6. Process Safety (29 CFR 1910.119)	Chemical Process Safety Training	Workers and/or managers at facilities that process/store "highly hazardous chemicals" (chemical plants, petroleum refineries, pulp & paper mills, rubber & plastics manufacturers, etc.)

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Table 1 (cont.)
Employee Training Requirements for Selected Federal Environmental, Health, and Safety Regulations

Government Agency/Regulations	*Course Title/Content*	*Attendees*
B. EPA		
1. Asbestos (40 CFR 763)	24-Hour Asbestos Building Inspectors and Annual Update	Inspectors for buildings with Asbestos Containing Materials (ACMs)
	16-Hour Asbestos Management Planners and Annual Update	Management planners for abatement projects involving ACMs
	32-Hour/40-Hour Contractor Supervisor	ACM abatement contractor supervisors
	8-Hour Contractor Supervisor Update	ACM abatement contractor supervisors
	16-Hour Operations and Maintenance for Asbestos Buildings	Operations and maintenance personnel working in buildings with ACMs

Training plans need to be reviewed and approved by management and submitted to the training coordinator. The training coordinator should always match the needs of the employees with internal, outside, and other available training opportunities.

Training as an Investment in the Future

Investing resources in training demonstrates a commitment to the future of both the company and its employees. Offering environmental training signals the company's caring attitude toward its employees. It tells employees they are valuable parts of the management chain and that their judgement is respected. In addition, investing in training sends a message about the future of the company, for the benefits of training programs are always demonstrated in the future.

Training is an ongoing investment. Conducting training seminars only periodically will not achieve desired results. If management is not committed to running an environmentally sound business, subordinates cannot be expected to do so. Management must demonstrate its concern through continued emphasis on the environmental theme, coupled with regular environmental training sessions.

Senior management should also regularly participate in this training, either as students or instructors. Whatever form this involvement takes, employees must recognize that the involvement of management is real and ongoing. With "top-down" leadership and emphasis environmental training can be a significant tool in achieving an excellent balance of environmental awareness and sound decision-making throughout the organization.

Environmental training is, simply put, good for business. Although there are associated costs to consider, the cost of not conducting training is increasing. Companies will continue to find themselves at competitive disadvantages if they fall behind in understanding and complying with today's environmental regulations. As the number of requirements continue to multiply, companies will find environmental training is an indispensable part of their management approach.

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AIDS ISSUES HAVEN'T GONE AWAY

by Nancy L. Breuer

Driving into the parking lot one morning, the human resources director of a New York-based department store found employees milling around the back door, refusing to enter the building. She knew a longtime employee had called to say that he'd be returning to work that day after being hospitalized for *Pneumocystis carinii* pneumonia and wanted his co-workers to know his diagnosis. She put two and two together and reached a depressing conclusion: No one wanted to work with a colleague who had AIDS.

What happened next, however, surprised her. When the returning employee reached the parking lot, his co-workers wouldn't go inside until each person had offered him a hug, a card, flowers, or some balloons. Astonished and laden with tokens of his co-workers' goodwill and compassion, the AIDS-diagnosed employee began one of the best days of his working life.

Is this a fantasy or an event master-minded by management? No, it actually happened—spontaneously. Could it happen in your company?

Most people in American workplaces in the 1990s work beside people who have HIV infection or AIDS. The virus is found most often in people of working age; so far, its heaviest toll has been among people in their 20s, 30s and 40s. Because therapies constantly improve, HIV-infected people will be able to work longer and with greater productivity as the decade progresses. Even after bouts of serious illness, people who have HIV infection will return to work more often and for longer periods than has been true in the past.

Do most American workers have any reliable training to help them cope with this reality? The intensity and nature of the conversation following basketball star Magic Johnson's announcement that he's HIV-positive suggest that they don't. Many employees remain ignorant and fearful. If the fear and ignorance aren't addressed, they're likely to worsen.

Thanks to the leadership of businesses that have provided workplace HIV education since the late 1980s, there are models that illustrate the value of making AIDS education ordinary.

The Prudential Insurance Company, Western Home Office, has been providing employee AIDS education seminars every six months since 1987, distributing a copy of the company's AIDS policy with employee orientation materials and handling reasonable accommodation matters and cases of AIDS-related discrimination quietly.

Dick Hunt, vice president for administration and a 20-year employee with the company, explains: "The longer you spend in human resources, the better nose you have for a bad situation and the better your batting average for avoiding them becomes. It was a matter of realizing that, if we did nothing, our first AIDS case would happen, and some people would panic out of ignorance." The Prudential made employee HIV training part of the regular human resources training menu; they made it ordinary.

Morrison & Foerster, an international law firm, took the same course and began employee HIV training in 1987. By now, says Personnel Manager Gene Bendel, when the firm announces an employee HIV training date, some employees ask, "Again? I thought I had that training last year." The company provides annual seminars so employees will be aware of new information about the epidemic. HIV training has become ordinary.

So far, the firm hasn't faced any HIV-related work disruptions or discrimination cases, even though the firm has faced employee HIV infection. "This is preventive education," Bendel reminds the firm. Even if there's no one with AIDS in the office today, "what about tomorrow?"

Dr. Ann Lewis, medical director for the Prudential at the Western Home Office, agrees. She points to the contrast between the company's first case and its most recent case as a dramatic example of the power of HIV education.

When the first case developed, Dr. Lewis had a stream of fearful employees in her office, afraid of contact and posing hypothetical questions. People didn't want to work in the same environment with a person rumored to have AIDS. Emotions ran high, productivity suffered and the myths about HIV transmission complicated efforts to communicate valid information.

Recently there was another case of symptomatic HIV infection in the same environment. Although co-workers are saddened by the waning energy of their colleague, no one is afraid to work beside the employee. No one questions the accommodation of installing a computer and printer in the affected employee's home to allow telecommuting as a less fatiguing option to full, on-site work-days. After several years of regular training, these employees know they aren't at risk and are simply concerned for their colleague.

Some companies resist training because of a fear that current medical information may be incomplete, that

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The Benefits of Workplace HIV Education

- Prevent new infections among employees by helping everyone understand how HIV is and isn't transmitted. This prevents suffering, loss of good employees and further impact on the company's health insurance costs.
- Alert managers and supervisors to the legal issues raised by HIV infection in the workplace. The overwhelming majority of AIDS-related lawsuits related to the workplace involve discrimination and violation of confidentiality. Those problems can be prevented with good training.
- Prevent discrimination by fearful or misinformed employees who virtually can halt productivity. Through education, the same employees are equally capable of creating a humane, supportive (and therefore healthy) working environment.
- Prepare managers and supervisors to consider reasonable accommodation requests from people disabled by HIV infection.
- Raise morale. It isn't unusual for companies to report positive effect on morale after employee HIV training.

How to Make HIV Training Most Effective

- Decide that HIV/AIDS training will be an ongoing process, not an event. If a solemn memo from the CEO announces unexpectedly that all employees must report to an HIV training session, employees will find many creative reasons for missing the meeting. Make it a process by distributing copies of the company's position on AIDS in the workplace; passing out education about HIV infection, including printing facts about the epidemic in the company newsletter; and posting helpful articles.
- Create a company task force charged with recommending the company's approach to workplace HIV issues. High on their list of recommendations will be training. Your attendance and response will be far better than if you take the solemn memo route.
- Incorporate HIV and AIDS into other human resources training. For example, when you talk about disability benefits in new employee orientation, say, "And if an employee is disabled by an accident or by HIV disease...." Make it ordinary.
- Provide information updates from reliable sources. This is a world in which rumor and mythology reign when companies, churches and schools are silent. Put up an AIDS information poster and leave it up until it starts to fall off the wall—just as with other safety posters.
- Offer annual information updates by a qualified trainer. Warning: the best person may not be the company doctor; not everyone is comfortable discussing human sexuality with co-workers. Contact your local AIDS service agency and others in your network for referrals.
- Don't stay away from the funeral. Do you stay away if one of your employees dies of a heart attack? Bone cancer? Honor the employee. Attend the funeral.
- In short, normalize, normalize, normalize.

there may be ways of transmitting HIV that are yet unknown. Such fears, given free reign, aggravate the problem.

Although many individuals acknowledge that an HIV-infected person at work doesn't pose a risk to co-workers unless they're sharing needles or having sex, they're afraid the person becomes a threat when he or she becomes symptomatic. These people worry that the infected person's skin lesions, persistent cough and diarrhea might be passed along to their co-workers.

According to David Dassey, deputy medical director for AIDS programs in the Los Angeles County Department of Health Services, such fears are unfounded. Only people who have impaired immune systems fall ill with the specific infections that affect people who have HIV infection or AIDS. Each person carries many of the infections that make HIV-infected people ill. A healthy immune system suppresses such latent infections as herpes or mononucleosis and fights off such environmental infections as can didiasis (yeast infections). Other AIDS-related infections are caused by organisms common in the environment. A damaged immune system can't fight them off, and the person becomes ill.

The only exception is tuberculosis, an infection that afflicts many people, including some HIV-infected people. Any employee—HIV-infected or not—who has active tuberculosis shouldn't be at work during the days the TB is infectious. After a physician releases a tubercular patient to return to work after he or she has begun responding to treatment, the person poses no risk to co-workers.

In 1992, it's quite clear that someone who has AIDS poses no risk at work. There's no medical evidence to the contrary. But what about the argument that the workplace might be dangerous to an HIV-infected person because of all the germs to which he or she is exposed?

Employees sometimes worry that their colds or flu will make an HIV infected co-worker sick. That isn't the case, Dassey explains. Those infections are handled

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easily by the part of the immune system that isn't seriously damaged by HIV, so controlling colds or flu is no more difficult for an HIV-infected person.

Even if HIV transmission or other infections isn't a workplace risk, there's a very real risk that employees will be paralyzed by their own panic. Often managers delay or avoid workplace HIV training to try to avoid provoking that fear. Is this a good idea? Not at all, says Bendel. He points out that strategic planning is used to anticipate business issues, and HIV *is* a business issue.

What would businesses that are providing HIV education say to those that aren't? Nissan Motor Corporation felt that the epidemic "had given rise to a number of critical human relations and legal issues" and decided it was "imperative to provide managers and supervisors some training on how to respond properly when confronted with the issues the crisis raises in the workplace," according to Ernest Stroman, manager of EEO and affirmative action programs at the U.S headquarters office. "We found there's no need for any company to be apprehensive about providing this kind of training. Our managers and supervisors were extremely positive about it, and went so far as to recommend that the training be provided for all employees. Approximately 90% indicated their awareness of how the disease is transmitted was enhanced greatly and their apprehensions about contracting the disease were relieved substantially," Stroman says.

Bendel points out that many employers, often working with their health insurance providers, discuss drug addiction and alcoholism routinely in employee training programs, viewing it as a health issue that has a profound impact on the workplace. He encourages managers to fold HIV education into the same series of seminars.

Projections from the World Health Organization and the Centers for Disease Control in Atlanta tell us that we're only on the edge of this epidemic. Sadly, working effectively with HIV in the workplace is a necessary business skill for the '90s. Refusing to yield to fear is one way to reduce its impact and ease the pain—and to benefit from the courage of Magic Johnson and other HIV-infected people.

TDY 93/94 IN BRIEF

MORE ON ENVIRONMENTAL TRAINING

Source: "Toxic Training," by Bob Filipczak, *TRAINING Magazine*, July 1992, pp. 53-56

Environmental training, this author says, helps companies maintain safer workplaces and be better corporate citizens. In this article, he defines environmental training as a form of technical training that updates employees on state and federal regulations which govern air, water, and solid-waste emissions. Environmental training attempts to keep companies in compliance with federal and state regulations, keep communities safe from hazardous waste and pollution, and keep employees in good health. Nearly all the current safety regulations include a training requirement. The author describes environmental trainers as subject-matter experts who have turned their talents toward training others in safety precautions. He points to NETA—a nonprofit group which provides information, certification, and moral support for its members—as a valuable aid to companies dealing with toxic and hazardous materials. He also examines the efforts of the Global Environmental Management Initiative to integrate total quality management into environmental awareness. (AN277)

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F. SPECIAL TYPES OF TRAINING

F-1. SAFETY TRAINING

SAFETY TRAINING AND EMPLOYER LIABILITY

by John D. Blackburn and James E. Sage

Lawsuits involving employer training programs were fairly rare 20 years ago. But today, as technology advances and training itself increases, such lawsuits are becoming more common. In some cases, injured parties claimed an inadequate training program failed to prevent the harm they suffered. In other cases, employers argued that their training program should protect the organization from liability. This article presents an overview of employer liability for inadequate training—particularly in safety and health issues.

General Duty Clause

The general duty clause of the Occupational Safety and Health Administration (OSHA) requires employers to provide a place of employment free from "recognized hazards causing or likely to cause death or serious physical harm to employees."

Federal courts have ruled that this clause requires employers to take all feasible steps necessary to avoid the occurrence of a hazard. In a 1976 case, *Horne Plumbing and Heating Company v. OSHRC*, the Fifth Circuit Court of Appeals stated that such feasible steps include "training of employees as to the dangers of their job assignment(s) and the supervision of employees on the worksite."

The *Horne* case also demonstrates how a training program can help determine that an employer did not violate OSHA's general duty clause. In this case, two experienced workers died while working in unsupported portions of a ditch, contrary to specific instructions and despite continued warnings from fellow employees. Company safety precautions included group safety meetings with employees, on-the-job meetings with individuals, and handouts concerning safety instructions and OSHA requirements. In addition, the employer provided safety materials at the worksite.

The employer's 20-year flawless safety record, along with the experience of the employees who died, also influenced the court's decision that the employer had not violated an OSHA standard.

In contrast, the First Circuit Court of Appeals ruled in 1979 that inadequate training had contributed to an OSHA violation. In *General Dynamics Corporation, Quincy Shipbuilding Division v. OSHRC*, the employer allowed an inexperienced employee to perform hazardous duties involving an unsupported web frame without informing the employee of those hazards. The employee's negligence resulted in the death of a co-worker. The First Circuit Court of Appeals held that the employer failed to protect its employees from the hazards of an unsupported web frame, even though the accident may have occurred because of unforeseeable events.

The inexperienced employee had not been properly trained to remove the web frame supports, nor was he aware of the danger of an unsupported web frame. Other employees corroborated this lack of training.

According to the court, OSHA's rule regarding "a workplace free from recognized hazards likely to cause death or serious injury requires an employer to take steps to prevent and suppress hazardous conduct by employees, including proper training and supervision of employees."

Criminal Liability

A few courts also subject employers to criminal liability if they fail to train adequately. The 1989 decision in *State v. Shoreline Support Corporation* shows how an employer's lack of training can contribute to a violation of criminal law. In this case, the Wisconsin Court of Appeals upheld a lower court jury verdict finding Shoreline Support guilty of reckless conduct for causing the death of an employee. The employer allowed the employee to operate a bulldozer near a cliff, although the employer was aware of the employee's lack of experience. The employee drove the bulldozer off the cliff and died.

Expert witnesses testified that a person operating a bulldozer in such a dangerous area generally has had significant training and supervision—about 1,500 hours

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of supervised operation. But the deceased employee had had only about 43 hours of supervised and unsupervised operation.

The jury found the employer guilty of reckless homicide, a Class C felony in Wisconsin. Under Wisconsin law, reckless homicide "consists of an act which creates a situation of unreasonable risk and high probability of death or great bodily harm to another and which demonstrates a conscious disregard for the safety of another and a willingness to take known chances of perpetrating an injury."

The Wisconsin appellate court upheld this decision that a lack of training and supervision caused the employee's death and that the employer acted recklessly in failing to train and supervise the employee.

Workers' Comp Exceptions

An employer usually is protected by workers' compensation laws from employee lawsuits. Workers' compensation statutes establish a basic trade-off between employees and employers. Employees injured at work and dependents of employees killed at work are entitled to benefits regardless of fault. In return, employers are immune under the exclusivity doctrine from most tort liability to their workers for injuries covered by compensation law.

In some states, an exception to the exclusivity doctrine allows employees to sue their employer if the employer intentionally injured them. (See sidebar, "Exceptions to Exclusivity.") Intentional torts or harms committed by an employer are considered outside the employment relationship and therefore outside the workers' compensation law. In states recognizing this rule, an employee may successfully sue if the court determines that the employer intentionally injured the employee by failing to train an employee to work in a hazardous area.

Courts generally apply the substantial certainty test to determine whether an employer has committed an intentional tort. For example, in a 1988 case, *Van Fossen v. Babcock & Wilcox Company*, the Ohio Supreme Court defined intent "to denote that the actor desires to cause consequences of his act, or that he believes the consequences are substantially certain to result from it."

To establish an intentional tort, a plaintiff must show proof beyond that required to establish negligence and recklessness. When the employer acts despite the knowledge of some risk, the employer's conduct may be negligent. When the risk is great and the probability increases that certain consequences may follow, the employer's conduct may be reckless. Now assume the probability that certain consequences will follow increases even further. The employer knows that injury to employees is certain—or substantially certain—to result, yet the employer proceeds with the conduct. The law can then treat such actions as if the employer had wanted to cause the injury.

In a 1991 case, *Granite Construction Company v. Mendoza*, the Texas Appellate Court upheld $2.25 million in punitive damages against an employer on the theory of gross negligence. Texas defines gross negligence as situations in which employers knew about the peril, but through acts or omissions demonstrated that they did not care.

In this case, a worker was killed after being pushed into a lane of traffic by a pipe being carried on a front-end loader. The employee was holding onto one end of the pipe while the front-end loader moved alongside the road.

The employer introduced testimony that its safety program required all new employees to view a slide presentation on safety, and to receive both a booklet on safety and the employer's rules of conduct. A traffic control plan required that employees work no closer than three or four feet to a lane of traffic without closing that lane of traffic. Furthermore, the employer required its employees to wear high visibility orange vests. The company held monthly meetings to review safety rules and the safety coordinator met weekly with superintendents and engineers. Foremen conducted "tool box" and "tailgate" meetings to review safety concerns with their crews. Foremen also provided daily warnings to crew members to watch the traffic and wear their safety vests.

But other testimony showed that the deceased employee had not been given an orange vest, nor had the employer blocked off the adjacent lane of traffic. So the court ruled against the employer.

Exceptions to Exclusivity

Fourteen states and the District of Columbia permit employees to sue their employer for intentional torts:

- Arizona
- California
- District of Columbia
- Illinois
- Kentucky
- Michigan
- Minnesota
- New Jersey
- Ohio
- Oregon
- Pennsylvania
- Texas
- Washington
- West Virginia
- Wyoming

Standard of Care

Technical and skill trainers should provide training programs, training materials, and job performance guides whose design reflects inherent and foreseeable dangers and the safety precautions to follow to reduce the risk of injury. In addition, trainers should provide documented

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safety procedures. They should demonstrate foresight; provide proper technical, skill, safety, and accident prevention instruction; incorporate adequate evaluation of all instructional topics; and adequately control the training environment to facilitate learning.

High-Risk Training Program Design

Training programs for high-risk jobs, tasks, and environments require more attention to detail and follow through than other types of training. The amount of detail is reflected in the trainer's documentation of the design process; amount of design time required to foresee hazards, develop appropriate safety precautions, and identify critical knowledge and skills; and design skills required to create appropriate instructional interventions. The training program should be systematically engineered to address foreseeable hazards; be educationally sound to foster learning; and be evaluated and disciplined so that the technical, safety, and accident prevention skills can be transferred to the job.

The documentation process creates an audit trail that depicts many facets of training program design, implementation, and evaluation. The audit trail includes four key training-related elements:

- **Job-Relatedness.** Job-relatedness is demonstrated through the linkage between business objectives, job description, verified task inventory, and the selection of tasks to include in the training program. Link the content and quality assurance measures of a training program to a job and business necessity.
- **Foresight.** Various analytical and design activities—especially verified task analyses—demonstrate foresight. These analyses provide the foundation for all instructional activities, evaluation processes, and training to job transferability activities.

A verified task analysis may take various forms. However structured, each analysis needs to yield a detailed description of the task's critical knowledges, skills, attitudes, and values. In addition, it must describe other factors such as the hazards and safety precautions associated with the performance of each procedural step.

The training program's objectives represent the bridge between task analysis and each lesson's instructional content. Each lesson must have a definite starting point and an identifiable ending, and must require approximately 30 to 40 minutes of instruction that draws directly from the employees' personal and work-related experiences.

- **Application/Enforcement.** The application/enforcement section provides a safe environment for employees to practice their new skills and knowledge—such as hazard identification, OSHA safety procedures, and accident prevention.
- **Quality Issues.** Quality control measures provide the trainer with immediate feedback about the employee's acquisition of new skills, knowledge, safety habits, and accident prevention procedures. These data tell the trainer how well the training activities accomplished their objectives.

Quality assurance measures provide the trainer with feedback about the employee after he or she completes the training program and returns to the job. Approximately three to six months after completion of the training program, the employee is evaluated to determine what elements of the training program have been transferred to the job. Evaluation methods include observing employees performing on the job or during a simulated drill activity.

For those elements not transferred to the work environment, the immediate supervisor is interviewed and evaluated to determine why the employee has not been able to transfer his or her learning to the work environment. The results can lead to supervisor retraining or technical updating. Training's impact on organizational performance is difficult to measure. It requires a great deal of preplanning and extensive follow-up over several months.

Conclusions

The cases reviewed here point to five key conclusions:

- Training programs need to be based on detailed task analyses to include foreseeable job hazards.
- Training program objectives, instructional content, quality control, and quality assurance should be linked to detailed task analyses to include important safety instructions or standard operating procedures.
- Follow-up with employees and their immediate supervisors ensures that the safety training is being transferred into the work environment.
- Remember that, in the cases reviewed here, high-risk training activities started and stopped at the entrance to the instructional area.
- Also note that, in these cases, supervisors failed to help employees transfer their new learning to the job through coaching, job modifications, or work environment restructuring.

Recommendations

High-risk training programs represent detailed processes that require more time, money, and documentation than customary to minimize the potential liability created by inadequate training.

Employers should take every step possible to provide their employees an environment free from recognized

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hazards. In addition, they should link training program content to specific jobs, business necessities, and employee evaluation processes. Furthermore, they should provide the means necessary to accommodate the transfer of new knowledge and skills to the workplace.

Trainers should identify foreseeable hazards and make recommendations to implement proper job safety precautions to minimize the potential for injury. They should systematically design their courses and carefully document the design, development, implementation, and evaluation processes. They should maintain the documentation for each course, keeping it in a safe environment for security purposes and reviewing it during related accident investigations.

Supervisors should learn about what the employees are learning in training, how these new skills will affect the work environment, and how to modify that environment to maximize the transfer of new skills and knowledge to the job. Supervisors should help train employees. In addition, the process of evaluating supervisors' job performance must be updated to reflect this responsibility of transferring new knowledge and skills into the workplace.

THOROUGH TRAINING PROGRAM INCLUDES EVALUATION OF METHODS AND RESULTS

by Randall K. Stegner

More restrictive federal and state regulations are placing increasing pressure on employers to properly train staff in workplace hazard minimization and regulatory compliance. Few companies will deny the benefits of conformance with these regulations. What often is less clear is whether the training programs that they have already implemented are fulfilling the requirements adequately.

Regular evaluation of on-going training programs should be considered a risk management tool to avoid the potential of enormous corporate non-compliance fines as well as to avoid civil and criminal liabilities which can be associated with adverse incident litigation.

Since training typically accounts for more than 60 percent of an average safety management budget, maintaining its effectiveness is a budgetary concern as well.

Costs of Non-Compliance

Employers today should be well aware that they are accountable for assuring that adequate safety and compliance training is provided. Unfortunately, the increasing regularity of cited violations points to problems in many training programs:

- Twenty-four construction subcontractors in Philadelphia were fined $251,680 on a single day at a single construction site for safety violations including lack of comprehensive training.
- Improper training was the basis for criminal convictions of a New Jersey company owner and foreman for murder when employees died from handling their materials improperly.
- A major chemical company was fined $3.5 million, the highest fine on record involving hazardous-waste training regulations, after being cited for willful failure to provide adequate training.

These and similar fines may, in some cases, represent flagrant disregard of regulations. However, they may more frequently demonstrate an inability on the part of management to measure the appropriateness of the training that they conduct relative to applicable regulations and/or relative to the level of risks that their personnel must be trained to handle.

Management Involvement

To help assure that training is satisfactory, substantial management involvement is essential. Even a brief perusal of training regulations demonstrates that the "employer" is responsible for providing adequate training, not the trainers. This involvement is critical whether the program is new, on-going, conducted by in-house personnel or by an outside consultant.

A tool to minimize the risk of providing improper or inadequate training is a comprehensive audit of on-going training programs at their inception and on a regular basis thereafter. The audit should address specific safety training needs on a company-wide and facility-specific basis.

The primary intent of the audit function is the review of and identification of regulatory non-conformance issues within the existing programs. The job of the auditor is not to "redevelop" instructional sessions, but rather to evaluate overall training effectiveness and compliance.

A thorough evaluation of training should encompass several key quality issues. Such an evaluation would, of course, be tailored to address company or site-specific

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items. The following discussion of these points can help managers develop their own systems or direct outside consultants to evaluate their training programs.

Training Goals

The first aspect of the audit should be to determine the goals of the training programs. Management's involvement in setting goals is essential because of the great scope of company liability should regulators determine that training has been inadequate.

To begin the audit, management should work with in-house compliance personnel or out-of-house consultants to assess actual risks within the operation and applicable training standards.

Be aware that not all activities and operations are specifically addressed in the more than 100 current OSHA standards containing training regulations. Federal and local regulations specifically state that training is an essential part of every employer's safety program. Through this statement, unspecified activities may be regulated.

For example, OSHA regulations include the "General Duty Clause," mandating that employers provide a "hazard-free environment," which appropriate training certainly can help attain. As such, it would be prudent for management to review whether or not activities that could potentially be (to use the language of the General Duty Clause) "recognized" as hazardous or represent "serious" risk are addressed in training.

Additionally, the objectives of the training program must be reviewed by management because the level of budgeting should be in a direct proportion to those objectives. A compliance manager who is provided with a minimal budget by hands-off management is receiving a signal that training is not vital. This may not be the case in the actual operation, but such a perception may lead to costly conclusions.

Therefore, the evaluation of goals must be an in-depth examination. The audit should ask whether management has taken an active role in planning and reviewing the training program. Is management aware of the areas of risk in the company and which risks are being addressed by the overall training program conducted? Has management expressed its goals to compliance managers or outside providers in specific language? Has management allocated an adequate budget to provide appropriate training to manage the actual risks?

Training Compliance

Unmet goals are of little service to anyone. The second stage in the audit should be to evaluate the status of training compliance. This should, of course, cover required programs. Are they all being conducted? At the appropriate intervals? In addition, it should review the other areas of risk determined in the goals setting aspect of the audit, and determine whether these areas are being addressed adequately.

Another aspect of this element of the audit could be termed a "reality check." This can be performed either internally or by a third party to evaluate whether the employees are performing within the limits specified by the training. Checks can also be made as to the availability of appropriate safety equipment and its upkeep. Interviews with employees can determine whether they are retaining and utilizing the training they have received.

The auditor should question past attendees on key issues of instructional sessions such as: emergency notification and procedures; protective clothing selection and use; and hazard evaluation. Correct, concise responses to questions indicate employee retention of information and therefore, effective training. Furthermore, unannounced, planned incidents at the worksite, such as fire drills, mock spills or spot-checking of record keeping, provide excellent tools to evaluate the adequacy of training.

To avoid the costs of outside consultants, companies can request confidential audits from OSHA or state agencies. These regulators maintain that, when such audits are requested, fines are not levied for infractions. Rather, they see it as positive involvement by management in compliance.

While in-house personnel can be used for this on-site operations review, a less-biased picture may be available from outside sources.

A third-party review may provide additional insight on training compliance and content issues because their perceptions would not be encumbered by internal policies and budgetary concerns. A further advantage of utilizing outside auditors: they are able to look at facilities with "fresh eyes" not blinded by familiarity to routine operations and associated risks and are, therefore, able to recognize corporate-training shortcomings and liabilities.

Training Content

Management should attend training sessions to confirm that they are being performed effectively and accomplishing the desired results. Several training parameters can be measured during these session audits as follows:

Use of Personal Protective/Safety Equipment. Is actual equipment or its equivalent available for demonstrations at the appropriate sessions? It is difficult to learn how to use equipment without having the opportunity to actually work with the respective unit. Are the operational aspects of each piece of equipment discussed? It is as important to know of equipment's limitations as well as capabilities. Finally, were hands-on exercises employed? Such activities should replicate as nearly as possible the actual circumstances of "real life" use.

Emergency Planning. If an area of work represents enough risk to require training, then there is always a potential of an emergency. Should this occur, employees need to be trained in all aspects of managing such an event. During the audit, identify whether contingency plan components are reviewed in the training. Are

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specific emergency responsibilities presented? Is the information presented in a manner that is facility-specific including, for example, the name, phone number and location of the hospital with which the company has previously made arrangements? Ideally, emergency training should include an incident simulation, whether a fire drill, response to physical injury or hazardous-materials release.

Regulatory Issues. Whether attendees are machinists or managing a hazardous-waste treatment facility, the current federal, state and local regulations should be made clear to them. It is here that outside training specialists often are of help, since it is their occupation to be up-to-date on regulatory issues. If the training is being performed by outside personnel, the in-house specialist can audit to see that the courses include newly revised regulations. For the case where an in-house person is doing the training, an occasional interview with outside consultants or subscriptions to regulatory training publications may help to ensure that the newest regulations are not missed. In addition, the audit should also measure whether internal policies are being presented adequately. Again, this is crucial because the employer is required to provide a safe working environment regardless of the specific work activity under the "general duty" clause.

Facility and Operational Specific. If training is not applicable to the needs of the attendees, then you are wasting your time and money. The audit should determine whether care is being taken in preparation of training sessions to include coverage of the actual activities of the participants. In addition, if more than one operational group is being trained at the same time, are the needs of each group being adequately met?

Training Procedures

The techniques used by trainers are as important as the material presented. Information not understood, or misunderstood, can be a risk in itself.

Appropriateness. Different employee groups may have different learning skills. Is the program prepared for the attendees' educational level? Shooting too low will cause boredom and inattention. Shooting too high will miss the audience entirely and perhaps create resentment that can affect compliant performance. Language skills are important, also. Are many of the employees using English as a second language? In this case, the audit may find that information is not being transmitted at all and that translators or presentations in different languages would have a higher probability of effectively reaching the employees.

Teaching Techniques. Few people can learn from instructors who are not interested or from those who present information in a manner that is not consistent with the way the attendee learns. Questions the auditor should ask include: Is the instructor involved? Is the instructor gaining the interest of the attendees? Is the information repeated and reinforced sufficiently to help attendees remember? Does the instructor review material in hands on, written and oral fashion? Are written materials handed out that augment, supplement and/or reinforce the information?

It is well-established that effective training programs should include oral explanations, visual cues, such as overheads, reinforcing handouts and, above all, hands-on use of equipment and materials in simulations. Numerous training organizations, such as the American Red Cross, incorporate a combination of these cognitive and psychomotor techniques to effectively instruct attendees and contribute to the learning process.

Testing. No training program can guarantee 100 percent retention. This fact, combined with the necessity of tailoring training programs to facility, project and even job-specific circumstances, has caused employers—and regulators—to include comprehensive testing to measure the effectiveness of training. Tests can be developed that provide a relevant picture of what has been learned during training. Equally important, a fair, comprehensive test will give the trainers valuable feedback on the effectiveness of their instruction. The audit should determine whether testing is taking place, whether it is being conducted in a manner that will provide information that can be evaluated, and whether the attendees are demonstrating sufficient retention.

Frequency. The frequency with which a limited number of training programs should be conducted is mandated by regulations, such as annual refresher courses for handling hazardous waste. However, in most situations, no frequency is specified. Nevertheless, management is liable if regulators feel the frequency has been inadequate. The audit should question whether, given the information to be learned and the capabilities of the employees, the frequency of the training sessions is adequate.

Training Results

There are two points of view to evaluate results: management's and the employees'. Do not devalue the latter. People in the field have a good idea of what they need to know and, if approached in a manner that will solicit an honest response, they can best tell management whether training was sufficient to provide them the information they need. One technique for obtaining such an assessment can be through comment forms distributed by the trainer at the end of the session. Another is personal interviews.

However, in many cases, observant management can determine whether training has created any changes in employee behavior. Is equipment being operated more safely? Is safety equipment being employed better? Are reports being properly filled out?

If this sounds similar to the "Evaluation of Training Compliance Status" section of the audit, it is because the audit should essentially be on-going. Attention to the conduct of operations provides a feedback mechanism to enhance the training program. Regulations and company operations will change. Training must also continuously adapt and evolve.

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Audit Results

After formal evaluation, identified items of non-conformance should be remedied. These may include changes in the programs offered, in the trainers used or in the frequency of administering programs.

Management's willingness to address any identified non-conformance issues is paramount for the success of a self-correcting audit program. An audit conducted with no follow-up adjustments of shortcomings represents liability exposure in two tangible arenas. First, it is a demonstration to employees of limited management commitment to follow through with corrective measures, which may instill a lower priority to workplace safety and resulting increase in harmful incidents. Secondly, once deficiencies have been formally identified by the audit program, employers must minimize potential resultant injury litigation by remediating all issues. It is because of this liability exposure that companies elect to protect the audit documentation under confidential attorney privileged status.

Conclusion

The time and expense required for conducting a comprehensive training audit and making appropriate alterations to instructional programs will prove to be hours and dollars well spent when compared to the consequences of providing substandard safety training.

TDY 93/94 IN BRIEF

SECURITY AWARENESS TRAINING

Source: "Security Awareness: The New Kid on the Training Block," by John Chuvala, Julie A. Gilmere, and Tammy S. Gillette, *Security Management*, August 1992, pp. 65-72

Why is security awareness training crucial to business operations? According to the authors, "By teaching employees about awareness, what it means, how to become more aware of problems, and why it is important to be involved, crimes can be prevented from occurring and people can avoid situations where they may be victims of crimes." This article summarizes current thought on security awareness and the new liability for negligent training. The authors stress that all employees should become involved in awareness programs and help to develop goals and strategies. An analysis of security awareness survey responses is included, showing media used, size of organization, and geographic location. The authors cite an article by Marshall M. Meyer in an earlier issue of this journal, suggesting that guidelines for a security awareness program should include:

- Orientation,
- Visible deterrents,
- A continuing training program, and
- Management support.

The authors then move on to the subject of liability for negligence. They focus on breach of duty, describing in detail the case of *Early v. N.L.V. Casino Corporation.* The court held that the casino lacked the requisite reasonable care required, due to poor security awareness training. In conclusion, the authors cite recommendations from Fenton, Ruid, and Kimball for training employees to protect themselves and their businesses from negligence suits. (AN278)

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F-2. MORE TRAINING PROGRAMS

TDY 93/94 IN BRIEF

CREATIVITY TRAINING

Source: "Creativity Training Gets Creative," by Marc Hequet, *TRAINING Magazine*, February 1992, pp. 41-46

What does an executive playing with a 10-year-old have to do with business? Stimulating creativity, claims the author. He points to a number of signs that creativity training is way up over the last several years. The author highlights various popular approaches to creativity training. A relatively mild approach involves helping clients identify and emulate the success-producing behavior of others. More avant garde approaches include:

- **Metaphoric thinking**, comparing the elements of a problem to other things;
- **Lateral thinking**, finding similar uses for a product; and
- **Six Thinking Hats**, an approach that encourages a group of people to think in parallel about a new idea, rather than at cross purposes.

But such approaches have their critics—behaviorist Joe Harless for one. "If we sheep-dip half the people in the world's business and industry in so-called creativity training," he cautions, "we jolly well might be doing more harm than good." He complains that there is no way to measure the effectiveness of creativity training. Apparently some companies disagree. The author cites a study which showed that a group given creativity training generated more ideas than a control group without the training. He concludes with examples of creativity thinking saving money for Frito-Lay, Du Pont, and Texas Utilities Mining Co. (AN279)

20 READY-MADE TRAINING PROGRAMS

Source: *Twenty Active Training Programs*, by Mel Silberman, Pfeiffer & Company, 1992, 430 pages, $129

There are times when re-engineering the wheel produces a better wheel. But for most purposes, existing wheels do quite well and save lots of time that wheelwrights must invest in the cutting edge programming they must prepare from scratch. This looseleaf book contains 20 off-the-shelf, one-day training programs, prepared by a variety of trainers, and touching on the most common training tasks: (1) productive group skills, (2) coaching and counseling, (3) conflict resolution, (4) business writing, (5) career development, (6) stress management, (7) creative problem solving, (8) cross-cultural training, (9) presentation skills, (10) team building, (11) workforce diversity, (12) project management, (13) time management, (14) meeting management, (15) men-women relationships, (16) interviewing skills, (17) performance review, (18) customer service, (19) employee motivation, and (20) strategic planning. The author has been careful to see that each of the modules incorporates interactive techniques, including: opening activities, participatory methods, lecture tips, alternatives to lecturing, experiential learning approaches, application strategies, and closing activities. "Furthermore," says the author, "every program in this sourcebook exemplifies the eight design features described in [Mel Silberman's] *Active Training*," such as balance between affective, behavioral, and cognitive learning, and opportunities for group participation. Each program is presented in 5 sections: (a) program overview, (b) program outline, (c) step-by-step program instructions for each activity, (d) a list of program resources on the topic, and (e) essential handouts which may be copied for participants. (AN280)

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